

Family Leptocephalidae

1659

Body moderately long. Mouth with lateral cleft not extending far behind eye. Maxillary articulated with ethmoid near snout end. Teeth conic, cardiform or compressed, in bands or in one or more series, well developed in jaws and on vomer. Tongue largely free in front. Nostrils lateral. Gill openings separated. Pharyngeal apertures of gill clefts wide. Pharyngeals ovate or oblong, covered with small teeth. Skin naked. Dorsal and anal continuous with reduced

1660

caudal. Vent remote from head.

Mostly large marine eels, found in most warm seas usually at moderate depths. Many undergo transformation, the young loosely organized, transparent, band shaped and with very small head. The body shrinks with increased age, owing to the compacting of the tissues.



## Analysis of genera

a. Gill opening slit like, moderate to large.

b. Front nostrils in a tube.

c. Mouth cleft reaching to eye; teeth in broad bands in jaws and broad confluent patch on palate; muzzle obtuse, short; skull cavernous.  
Promyllantor.

c.<sup>2</sup> Mouth cleft reaches at least to middle of eye or beyond.

d. Teeth in bands in jaws, which not elongated.

e. Jaws with outer series of close set teeth forming cutting edge; dorsal begins behind pectoral base; skull not cavernous. Leptocephalus.

e.<sup>2</sup> Jaws with bands of uniform fine teeth, none forming cutting edge; mouth cleft reaches middle of eye; dorsal

1662  
begins nearly or quite over gill opening; fore part of skull with large muciferous cavities.

f. 1 Teeth granular, outer series acute; vomerine teeth well developed; head moderate, much less than trunk; eyes large; dorsal begins behind pectoral base; vent. well premedian. Conger muraena.

f. 2 Teeth acicular, upper not extended conspicuously forward beyond mandible; vomerine teeth well developed; head small much less than trunk; eyes large; dorsal above or nearly above pectoral little premedian. Chiroxoma.

f. 3 Teeth acicular, upper extended forward beyond tip of closed mandible; head large, subequal with trunk; eyes smaller; dorsal above or nearly above pectoral base; vent far advanced. Bathycoriscus.



d.<sup>2</sup> Teeth in bands in jaws, some of anterior outer ones directed or flaring somewhat outward; jaws elongated, upper slightly notched subterminally. Congrathynchus.

d.<sup>3</sup> Teeth uniserial in jaws; tail less than rest of body; front nostrils subtubular. Coloconger.

b.<sup>2</sup> Front nostrils not tubular, as simple rounded pores.

f.<sup>1</sup> Teeth in jaws and on vomer.

h.<sup>1</sup> Dorsal begins over or behind pectoral base; tail tapering, slender; color uniform. Euroconger.

h.<sup>2</sup> Dorsal begins before gill opening; tail normal; body banded, head with dark blotches. Poecilconger.

g.<sup>2</sup> No teeth in jaws or on vomer. Veternis.

a.<sup>2</sup> Gill opening circular, small, below pectoral. Silvesterina.



Genus Promyllantor Alcock

Promyllantor Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 6, 1890, p. 310. Type Promyllantor purpureus Alcock,

monotypic.

Body rather robust, little less than tail. Head moderate, with well developed muciferous cavities. Snout broad, rather short, obtuse. Eye moderate, well advanced, high.

Jaws hidden by very thick inflated lips, mouth cleft reaching eye and lower jaw little shorter. Teeth villiform, in broad bands in jaws and broad confluent patch on

palate. Tongue free. Nostrils lateral, front one short wide tube inferiorly at snout tip, hind one large, circular, above front angle of orbit. Gill openings small, widely separated, hardly larger than eye. No gill rakers. Lateral line axial. Vertical fin confluent, high. Dorsal begins behind ends of pectorals. Pectoral inserted nearly median in body depth.



Analysis of species

a<sup>1</sup>. Eye  $1\frac{1}{4}$  to  $1\frac{1}{2}$  in snout. purpureus.

a<sup>2</sup>. Eye 3 to  $3\frac{1}{2}$  in snout. alcocki.

Promyllantor purpureus Alcock

Promyllantor purpureus Alcock,

Ann. Mag. Nat. Hist., ser. 6, vol. 6,  
1890, p. 310.

Illustrat. Zool. Investigator, pt. 1,  
1892, pl. 6, fig. 2. — Goode and Bean,  
Oceanic Ichth., 1895, p. 139 (reference).

— Alcock, Journ. Asiatic Soc. Bengal,  
vol. 65, pt. 2, 1896, p. 337 (reference);  
Cat. Deep Sea Fishes Indian Mus.,  
1899, p. 202 (type).



1669

Depth  <sup>$1\frac{7}{8}$  to</sup> 2 in head, 10  <sup>$10\frac{1}{4}$</sup>  to  <sup>$10\frac{1}{4}$</sup>  caudal  
base; head  <sup>$5\frac{1}{4}$</sup>   <sup>$2\frac{1}{2}$  to</sup>  $5\frac{1}{4}$ ,  <sup>$2\frac{3}{5}$</sup>   $2\frac{3}{5}$  to vent;  
width  <sup>$2\frac{7}{8}$</sup>   $2\frac{4}{5}$  its length; combined  
head and trunk  <sup>$1\frac{1}{3}$</sup>   $1\frac{1}{8}$  in tail to  
caudal base. Snout  <sup>$4$</sup>   $3\frac{2}{5}$  in head;  
eye  <sup>$4\frac{3}{4}$  to</sup>  $5\frac{1}{2}$ ,  <sup>$1\frac{1}{4}$  to</sup>  $1\frac{1}{2}$  in snout, greater  
than interorbital; mouth cleft  
reaches nearly to eye, length  $4\frac{3}{4}$   
in head; teeth short, fine, uniform,  
villiform, in broad bands in jaws  
and equally broad band over most  
of entire region of vomer or palate;  
front nostrils at lower front side of snout, posterior at last <sup>of snout</sup> third  
interorbital  <sup>$6\frac{3}{5}$</sup>   $6$ , nearly level. Gill

opening small,  $7\frac{1}{4}$  to 9 in head, short oblique slit before and below pectoral base.

Lateral line axial, well marked. Numerous short black filaments over head, as row postocular, another transversely over occiput and numerous ones scattered over lower surface of head; 3 or 4 predorsal pairs.

Dorsal origin begins opposite tip of depressed pectoral fin, fin height,  $3\frac{2}{5}$  to  $3\frac{2}{3}$  in head; anal fin



height  $3\frac{2}{3}$ <sup>to  $4\frac{2}{3}$</sup> ; caudal  $4\frac{2}{5}$  <sup>$3\frac{4}{5}$  to</sup>, pointed;  
pectoral  $3$  <sup>$2\frac{7}{8}$  to</sup>.

Uniformly dark drab brown.  
Iris dark neutral gray. Fins  
all dark brown.

Indian Ocean. The short black  
filaments of my example, present  
on the head and predorsal, are  
not shown on Alcock's figure, though  
in most every other way they agree.

10244. D. 5654.

December 18, 1909.

Length 342 mm.

10244.

1672

4080, D. 5654, Cape Tabako, N.  $17^{\circ}$  E.,  
21.5 miles (S.  $3^{\circ}42'$  E.  $120^{\circ}45'50''$ ), Gulf  
of Boni, Celebes. In 805 fathoms.  
December 18, 1909.

Length 250 mm.  
to 342

10193. D. 5610. Batu Laka Island (S.).  
N.  $87^{\circ}$  W., 20.9 miles (S.  $0^{\circ}36'$  E.  $122^{\circ}1'$ ).

November 19, 1909. In 678 fathoms.

Length 332 mm.

1673

Promyllantor alcocki Gilbert and Cramer  
Promyllantor alcocki Gilbert and Cramer,  
Proc. U. S. Nat. Mus., vol. 19, 1897,  
p. 405, pl. 36, fig. 1. N.  $21^{\circ}12'$  W.  $157^{\circ}49'$ ;  
295 fathoms. — Gilbert, Bull. U. S. Fish  
Comm., vol. 23, pt. 2, 1903 (1905), p. 584  
(off Molokai; Pailolo Channel; Oahu;  
238 to 334 fathoms). — Fowler, Mem.  
Bishop Mus., vol. 10, 1928, p. 40 (compiled).



Genus Leptocephalus Gmelin

Leptocephalus Gmelin, Syst. Nat. Linn., vol. 1, 1789, p. 1150. Type Leptocephalus morrissii Gmelin, monotypic. — Gronow, Zoophylacii, 1763, p. 135, species non-binomial. — Scopoli, Introd. Hist. Nat., 1777, p. 453, atypic.

Conger Schaeffer, Stud. Ichth., 1760, p. 20. Atypic. (Type Muraena conger Linnaeus, assumed tautonym — inadmissible). — Houttun, Hist. Linn., vol. 7, pt. 1, 1764, p. 103. Type Muraena conger Linnaeus, tautotypic (inadmissible). — Oken, Isis, 1817, p. 1182a (on Cuvier). Type Muraena conger Linnaeus, virtually.

Morris Berkenhout, Syn. Nat. Hist.<sup>1675</sup>  
Great Britain, ed. 2, pt. 1, 1789, p. 65.

Type Morris sp. Berkenhout =  
Leptocephalus taeniola Menschen.

Helmictis Rafinesque, Ind. Itt. Sicil.,  
1810, pp. 49, 62. Type Helmictis punctatus  
Rafinesque, monotypic.

Pterurus Rafinesque, Ind. Itt. Sicil.,  
1810, pp. 49, 62. Type Pterurus flexuosus  
Rafinesque, monotypic.

Oxyurus Rafinesque, Corrat. Animal  
Piant. Sicil., 1810, p. 19. Type Oxyurus  
vermiformis Rafinesque, monotypic.

Helmichthys Costa, Fauna Napoli, Pesc.,  
1844, fasc. 45. Type Helmichthys



diaphanus Costa, monotypic.

Leptocephalichthys Bleeker, Act. Soc.  
Sci. Ind. Néerland (Manado I), vol. ,  
1856, p. 69. Type Leptocephalichthys

hyrselosoma Bleeker, monotypic.

✓ Diaphanichthys Peters, Monatsber. Akad.  
Wiss. Berlin, 1864, p. 399. Type

Leptocephalus (Diaphanichthys) brevicaudus  
Peters, monotypic.

Atopichthys Garman, Mem. Mus. Comp.  
Zool., vol. 24, 1899, p. 326. Type Atopichthys  
esunculus Garman, designated by Jordan,

Genera of Fishes, pt. 4, 1920, p. 486.

Microcnger Fowler, Proc. Acad. Nat.

Sci. Philadelphia, 1912, p. 399. Type



Leptocephalus caudalis Fowler,  
orthotypic.

Astroconger Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27, 1925,  
p. 195. Type Anguilla myriaster Brevoort,  
orthotypic.

Rhynchocymba Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27, 1925,  
p. 195. Type Leptocephalus mystromi  
Jordan and Snyder, orthotypic.

Rhynchoconger Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27, 1925,  
p. 196. Type Leptocephalus \_\_\_\_\_  
Jordan and Richardson, orthotypic.

1678  
Body very long, subcylindrical  
forward, compressed behind. Head  
depressed above, pointed in front.  
Eye well developed, covered by skin.  
Mouth wide, cleft extends below middle  
of eye. Mandible protrudes. Outer teeth  
in jaws equal, close set, forms cutting  
edge. No canines. Short pointed band  
of teeth on vomer. Lips thick. Tongue  
free in front. Front nostril in short  
tube near snout tip. Gill openings rather  
large, low, nearly vertical below  
pectoral bases. Vertebrae 156, of which  
100 caudal. Lateral line present.  
Inconspicuous mucous cavities on



head. dorsal fin inserted close <sup>1679</sup>  
behind pectoral base, nearer latter  
than vent. Tail about half longer  
than vent.

Large marine eels living in most  
warm seas in moderate depths. Many  
undergo changes with age; the young  
fragile, transparent, band like and  
with very small head.

The following a doubtful species:



Leptocephalus fasciatus (Richardson)

Congrus fasciatus (Gray) Richardson,  
Ichth. China Japan, 1846, p. 312.

China Sea (on Chinese drawing).

Conger fasciatus Fowler, Hong Kong

Naturalist, vol. 3, no. 1, March 1932, p.

51 (copied).

1681

The following are not determinable:

Leptocephalus larva from Varadero  
Harbor, Mindoro. July 22, 1908.

Length 63 mm.

Small example in very poor preservation.  
D. 5442. San Fernando Point Light,  
N.  $39^{\circ}$  E., 8.4 miles (N.  $16^{\circ}30'36''$  E.  $126^{\circ}$   
 $11'6''$ ), west coast of Luzon. In 45  
fathoms. May 10, 1909. Length 174 mm.

## Analysis of species

a.<sup>1</sup> Premaxillary teeth entirely within closed mouth.

b.<sup>1</sup> Leptocephalus. Pores not surrounded by pigmented areas, confined on body to lateral line and sparsely developed on head.

c.<sup>1</sup> Dorsal origin opposite or behind ends of pectoral.

c.<sup>2</sup> Dorsal origin distinctly before ends of pectoral. wilsoni.  
cinerens.

b.<sup>2</sup> Astroconger. Pores surrounded by conspicuous pigmented areas, forming series below dorsal fin as well as along lateral line and densely developed on head anteriorly. Myriaster.

a.<sup>2</sup> Premaxillary teeth entirely in front of mouth on lower surface of projecting snout; teeth in jaws in bands or in 2 series of similar size; tail more attenuated.



1683

d. Alloconger. Snout short, barely projects beyond premaxillary teeth (without pocket or keel on midline); teeth fewer and larger, in jaws mostly in rows, on vomer bluntly conic, forming elongate triangular band (which separates maxillary rows). flavirostris.

✓ d.<sup>2</sup> Snout long, its fleshy tip projecting sharply beyond premaxillary teeth; teeth in jaws fine, close set, form narrow bands; on vomer largely molar like, form broad patch.

e. Rhynchocymba. Premaxillary patch of teeth much smaller than vomerine patch and separated by widely confluent anterior ends of maxillary bands; anteroventral line of snout occupied by deep pocket; no enlarged pores between nostrils; hind nostril horizontal slit with entire rim. mystromi.

1684  
e.<sup>2</sup> Rhynchoconger. Premaxillary  
patch of teeth longer than vomerine  
patch, in full contact, front ends  
of maxillary bands thus widely  
separated; anteroventral line of  
snout occupied by fleshy beak  
ending posteriorly in small free  
process; pair of enlarged pores  
between nostrils; hind nostril  
widely open, with fimbriate  
border. ectenurus.



1685

Leptocephalus wilsoni (Schneider)  
Gymnothorax wilsoni Schneider, Syst.  
Ichth. Bloch, 1801, p. 529. New Holland.  
Conger wilsoni Castelnau, Proc. Zool.  
Acclimat. Soc. Victoria, vol. 1, 1872, p.  
193 (Victoria); Record  
London Internat. Exhib., 1873, p. 16  
(Victoria). — Waite, Records South  
Australian Mus., vol. 2, no. 1, April 23,  
1921, p. 49, fig. 74. — Fowler, Occasion.  
Pap. Bishop Mus., vol. 8, no. 7, 1923, p.  
375 (Honolulu); Mem. Bishop Mus.,  
vol. 10, 1928, p. 38, pl. 1C (Honolulu).

~~Leptocephalus japonicus~~ (Bleeker)  
Conger japonicus Bleeker, ~~Verhandl.~~

Kon. Akad. Wet. Amsterdam, vol. 18,

1879, p. 32, pl. 2, fig. 2. Japan. ~~Franz~~

Jordan and Hubbs, Mem. Carnegie Mus.,  
 vol. 10, no. 2, June 27, 1925, p. 194 (Misaki).

Franz, ~~Abhandl.~~ Kon. Bayer. Akad.  
 Wiss., vol. 4, Suppl. band 1, 1910, p. 11  
 (Aburatsubo).

Leptocephalus japonicus Jordan and Snyder,  
 Proc. U. S. Nat. Mus., vol. 23, 1901, p. 851  
 (compiled).

? Congrus leucophaeus Richardson, Ichth.

Voy. Erebus and Terror, 1844-48, p. 108.  
 Not locality.

Conger vulgaris (not Cuvier) Schlegel,  
 Fauna Japonica, Poiss., pt. 10-14, 1846,



p. 259 (Seas of Japan). — Bleeker,  
~~Verhandel.~~ ~~Batavia.~~ Genootsch. (Nalez.  
 Ich. Japan), vol. 25, 1853, p. (19) 53  
 (Nagasaki); (Nalez. Ich. Japan), vol.  
 26, 1857, p. 6 (Nagasaki); Act. Soc.  
 Sci. Ind. Néerl.~~and~~ No. 3, vol. 3, 1857-58,  
 p. 6 (Japan); Naturk. Tijdsch.~~and~~ <sup>Nederl.</sup>  
 Indië, vol. 20, 1859-60, p. 235 (Nagasaki);  
 Atlas Ichth. Ind. Néerland~~and~~ vol. 4, 1864,  
 p. 26 (Japan; part). — Günther, Cat.  
 Fishes Brit. Mus., vol. 7, 1870, p. 29  
 (East Indies; type of Congrus leucophaeus;  
 Tasmania). — Martens, Preuss. Exped.  
 Ost-Asien, vol. 1, 1876, p. 405 (Yokohama).  
 — Hector, Handbook New Zealand, 1879,  
 p. 16.

Conger labiata Castelnau, Proc. Linn.  
Soc. New South Wales, vol. 3, 1879,  
p. (355) 396. Port Jackson.

Leptocephalus labiatus Gilby, Handbook  
of Sydney, 1898, p. 119. — Stead, Fishes  
of Australia, 1906, p. 44. — McCulloch,  
Fishes New South Wales, ed. 2, 1927, p.

~~File.~~

Conger conger (not Linnaeus) <sup>2</sup>Steindachner,  
Ann. Naturh. Hofmus. Wien, vol. 11,  
1896, p. 221 (Kobe, Hiogo, Nagasaki).

— Weber and Beaufort, Fishes Indo  
Austral. Archipelago, vol. 3, 1916, p.  
259 (specimen in Bleeker's collection).



~~9/11/16~~

Leptocephalus erebennus Jordan and  
Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901,  
p. 849, fig. 13. Misaki, Japan. —

Snyder, Proc. U. S. Nat. Mus., vol. 42, 1912,  
p. 406 (Misaki).

Leptocephalus kiusianus Jordan and  
Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901,  
p. 851. Hakata, Japan. — Snyder, Proc.  
U. S. Nat. Mus., vol. 42, 1912, p. 406  
(Misaki).

1691

Depth  $2\frac{1}{4}$  to  $2\frac{3}{4}$  in head,  $13\frac{1}{2}$  to 20 to caudal base; head  $5\frac{1}{4}$  to  $7\frac{5}{6}$ ,  $2\frac{1}{6}$  to  $2\frac{4}{5}$  to vent, width  $2\frac{3}{5}$  to  $2\frac{3}{4}$  in its length; combined head and trunk  $1\frac{2}{5}$  to  $1\frac{3}{3}$  in tail to caudal base. Snout 4 to  $4\frac{1}{5}$  in head; eye  $5\frac{1}{2}$  to  $8\frac{1}{3}$ ,  $1\frac{1}{3}$  to 2 in snout, 1 to  $1\frac{1}{5}$  in interorbital; mouth cleft reaches  $\frac{3}{5}$  to  $\frac{2}{3}$  in eye, length  $2\frac{2}{3}$  to 3 in head; jaws equal; teeth fine, uniserial along sides of jaws, patch on premaxillaries and form as narrow triangular patch



of short though more robust ones  
on head of vomer; interorbital  
6 to  $6\frac{1}{2}$ , nearly level. Gill opening  
 $6\frac{1}{5}$  to 8, mostly below pectoral base.

Lateral line very distinct, complete.

Dorsal origin  $\frac{1}{4}$  to  $\frac{2}{3}$  pectoral  
length posterior to depressed pectoral  
fin tips, fin height 7 in head;  
anal little lower; caudal  $5\frac{3}{4}$  to 13  
in head; pectoral  $2\frac{7}{8}$  to  $3\frac{4}{5}$ .

Light brown<sup>or brown</sup>, little paler on  
under surfaces of head, less so on  
belly. Iris silvery or whitish. Fins



1693  
pale brownish. Vertical fins dusky  
to nearly blackish marginally and  
largely posteriorly. In young vertical  
fins dusky basally posteriorly so  
almost blackish at caudal base,  
margins whitish all around.

Pectoral pale.

Philippines,  
East Indies, Japan, New South  
Wales, Victoria, Tasmania, New  
Zealand, Hawaii.

1694

22984. Cebu market. March 22,  
1909. Length 231 mm.

7991. D. 5367. Malabrigo Light,  
N.  $81^{\circ}$  E., 8 miles (N.  $13^{\circ} 34' 37''$  E.,  $121^{\circ}$   
 $7' 30''$ ), Verde Island Passage.  
In 180 fathoms. February 22, 1909.  
Length 843 mm.

D. 5561. Zamabal Island (NW.),  
S.  $36^{\circ}$  W., 0.2 mile (N.  $5^{\circ} 50' 45''$  E.,  $121^{\circ}$   
 $1' 15''$ ), Jolo Island and vicinity.  
In 10 fathoms. September 18, 1909.  
Length 55 mm. Dorsal origin about  
hind end of depressed pectoral.



Leptocephalus cinereus (Rüppell) <sup>1695</sup>

Conger cinereus Rüppell, Atlas Reise  
nördl. Afrika, Fische, 1828, p. 115, pl. 20,  
fig. 1. Red Sea. — Klunzinger, ~~Verhandl.~~  
zool. botan. Gesell. Wien, vol. 21, 1871, p.  
607 (Red Sea). — Weber, Siboga Exped.,  
vol. 57, Fische, 1913, p. 43 (Ternate; Iusa  
Laut). — Weber and Beaufort, Fishes Indo  
Austral. Archipelago, vol. 3, 1916, p. 258,  
figs. 107 (head) 108 (dentition) (Pulu Herbeti;  
Iusa Laut; Ternate; Humboldt Bay,  
New Guinea). — Barnard, Ann. South  
African Mus., vol. 21, pt. 1, 1925, p. 188  
( Natal coast). — Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27, 1925,

p. 193. (type of Leptocephalus risdianus; Samoa). — Deraniyagala, Ceylon Administrat. Rep., 1926, p. F18 (Galle Bay). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 37 (Honolulu, Samoa, Christmas, Society Islands); vol. 11, no. 5, 1931, p. 316 (references); Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 51, fig. 2 (Polynesia, Hawaii).  
Leptocephalus cinereus Herre, Philippine Journ. Sci., vol. 23, no. 2, 1923, p. 142 (Jolo, Sumagrete).  
Conger marginatus (Valenciennes) Eydoux and Souleyet, Voy. Bonite, Zool., vol. 1, 1841, p. 201, pl. 9, fig. 1. Hawaiian Islands. — Kaup, Archiv Naturg., 1856, pt. 1, p. 72 (reference); Cat. Apodal Fish Brit. Mus.,



1856, p. 114 (compiled). — Günther,<sup>1677</sup>  
Cat. Fishes Brit. Mus., vol. 8, 1870, p.  
38 (Zanzibar; type of Conger noordzicki).  
— Schmeltz, Cat. Mus. Godeffroy, no. 5,  
1874, p. 37 (Kandavu). — Martens, Preuss.  
~~Exposit.~~ Ost-Asien, vol. 1, 1876, p. 405  
(Atapafu, Timor; Larentuka, Flores).  
— Alleyne and Macleay, Proc. Linn. Soc.  
New South Wales, vol. 1, 1876, p. 351 (Low  
Island Reef). — Peters, Monatsber. Akad.  
Wiss. Berlin, 1876, p. 445 (Mauritius).  
— Jouan, Mém. Soc. Sci. Cherbourg, vol. 21,  
1877-78, p. 333 (New Caledonia). — Schmeltz,  
Cat. Mus. Godeffroy, no. 7, 1879, p. 59 (Kandavu).  
— Günther, Rep. Voy. Challenger, vol. 1, 1880,

p. 61 (Honolulu), p. 73 (Inland Sea).<sup>1698</sup>  
— Macleay, Proc. Linn. Soc. New South  
Wales, vol. 8, 1883, p. 278 (Hood Bay,  
New Guinea). — Pöhl, Cat. Mus. Godeffroy,  
no. 9, 1884, p. 40 (Kandavu). — Ishikawa  
and Matsuura, Prelim. Cat. Fishes Mus.  
Tokyo, 1897, p. 7. — Steindachner, Denkschr.  
Akad. Wiss. Wien, math.-naturw. Klasse,  
vol. 70, 1901, p. 514 (Laysan). — Günther,  
Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910,  
p. 393 (Hawaiian Islands). — Fowler,  
Copeia, no. 112, Nov. 20, 1922, p. 82 (Hawaii).  
+ Leptocephalus marginatus (Kner) Schmeltz,  
Cat. Mus. Godeffroy, no. 4, 1869, p. 27. South  
Seas (no description). — Jordan and



Evermann, Bull. U. S. Fish Comm., vol. 23,  
pt. 1, 1903 (1905), p. 76 (Hilo, Kailua, Samoa).  
— Jordan and Seale, Bull. Bur. Fisher.,  
vol. 25, 1905 (1906), p. 193 (Samoa). —  
Fowler, Proc. Acad. Nat. Sci. Philadelphia,  
1912, p. 9 (Christmas Island, Polynesia;  
Hawaii).

X Conger altipinnis Kaup, Archiv Naturg., 1856,  
pt. 1, p. 72. Bourbon (Paris Museum); Cat.  
Apodal Fish Brit. Mus., 1856, p. 114 (copied).  
— Guichenot, Notes Ile Reunion, vol. 2, 1862,  
p. 30.

X Conger noordzeekii Bleeker, Act. Soc. Sci.  
Ind. Néerl., no. 7, vol. 2, 1857, p. (8) 86.  
Amboina; Prigi, south east Java; Atlas



Ichth. Ind. Néerland<sup>and</sup> vol. 4, 1864, p. 26, pl.  
(23) 167, fig. 2 (Java, Sumatra, Celebes,  
Ternate, Amboina, Timor).

✓ Conger nordzeeki Schmeltz, Cat. Mus.

Néerland<sup>and</sup> Tijds. Dierk., vol. 4, 1874, p. 115  
(Chinese drawing).

26, pl. (5) 169, fig. 2 (Java, Celebes, Letti) ✓  
Schmeltz, Cat. Mus. Godeffroy, no. 6, 1877, p.  
— Peters, Monatsb. Akad. Wiss. Berlin, 1880, p. 926 (Singapore).  
18 (Sydney) ✓ — Ishikawa and Matsuura,  
Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 7.

✓ Leptocephalus bimaculatus Schmeltz, Cat.

Mus. Godeffroy, no. 7, 1879, p. 61 (South Sea).

— Pöhl, Cat. Mus. Godeffroy, no. 9, 1884, p. 40  
(South Sea).

1700

Ichth. Ind. Néerl<sup>and</sup>, vol. 4, 1864, p. 26, pl.  
(23) 167, fig. 2 (Java, Sumatra, Celebes,  
Ternate, Amboina, Timor).

✓ Conger nordzeeki Schmeltz, Cat. Mus.  
Godeffroy, no. 4, 1869, p. 29 (Kandavu).

Conger vulgaris (not Cuvier) Bleeker,  
Atlas Ichth. Ind. Néerl<sup>and</sup>, vol. 4, 1864, p.  
26, pl. (5) 169, fig. 2 (Java, Celebes, Letti);

Schmeltz, Cat. Mus. Godeffroy, no. 6, 1877, p.  
— Peters, Monatsb. Akad. Wiss. Berlin, 1880, p. 926 (Singapore).  
18 (Sydney) — Ishikawa and Matsuura,

Prelim. Cat. Fishes Mus. Tokyo, 1897, p. 7.

✓ Leptocephalus bimaculatus Schmeltz, Cat.

Mus. Godeffroy, no. 7, 1879, p. 61 (South Sea).

— Pöhl, Cat. Mus. Godeffroy, no. 9, 1884, p. 40  
(South Sea).



? Conger multident (not Castelnau)  
Pöhl, Cat. Mus. Godeffroy, no. 9, 1884,  
p. 40 (Viti Levu). — Whitley, Journ.  
Pan Pacific Res. Inst., vol. 2, no. 1, Jan.  
March 1927, p. 4 (on Pöhl).

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Leptocephalus riukenianus Jordan and Snyder, Proc. U. S. Nat. Mus., vol. , 1901, p. 852, fig. 4. Yaeyama, Ishigaki Islands. — Izuka and Matsuura, Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920, p. 173 (Okinawa).

Congrellus riukenianus Franz, ~~Abhandl.~~ Kon. Bayer. Akad. Wiss., vol. 4, Suppl. band 1, 1910, p. 12 (Yokohama).

Conger orbignyanus (not Valenciennes) Fowler, Mem. Bishop Mus., vol. 11, no. 5, 1931, p. 316 (on Pöhl).

1703

Depth  $2\frac{3}{5}$  in head, 19 to caudal base; head  $7\frac{1}{2}$ ,  $2\frac{7}{8}$  to vent, width  $2\frac{2}{5}$  in its length; combined head and trunk  $1\frac{3}{4}$  in tail to caudal base. Snout  $3\frac{7}{8}$  in head; eye  $8\frac{1}{2}$ ,  $2\frac{1}{4}$  in snout,  $1\frac{1}{4}$  in interorbital; mouth cleft reaches hind eye edge, length  $2\frac{3}{4}$  in head, lower jaw slightly shorter; interorbital 7 in head, nearly level. Gill opening 7, before and below pectoral.

Lateral line distinct, complete.



Dorsal origin over middle of pectoral, fin height 6 in head; anal fin little lower; caudal  $3\frac{2}{5}$ ; pectoral 3.

Dark brown, belly and under surfaces paler brown. Iris pale or straw brown. Fins little paler than back, edges of vertical ones darker to blackish. Pectoral brown, blackish terminally.

Red Sea, Zanzibar, Natal, Mauritius, Bourbon, Ceylon, East Indies, Philippines, China, Kiu Kiu,

1705

Japan, Queensland, New South  
Londtave Island,  
Wales, Melanesia, Polynesia,  
Hawaii.

4872. Jolo market. February  
13, 1908. Length 750 mm.



Leptocephalus myriaster (Brevoort)

Anguilla myriaster Brevoort, Ann.  
U. S. Exped. Japan, Perry, 1856, p.  
282, pl. 11, fig. 2. "Hakodadi."

Conger myriaster Steindachner, Ann.  
Hofmus. Wien, vol. 11, 1896, p. 222, pl.  
4, fig. 2 (Kobe, Hiogo, Nagasaki). —  
Franz, Abhandl. Kon. Bayer. Akad.  
Wiss., vol. 4, Suppl. band 1, 1910, p. 11  
(Aburatsubo; Sagami Bay).

Leptocephalus myriaster Jordan and  
Snyder, Proc. U. S. Nat. Mus., vol. 23,  
1900, p. 347 (Tokyo); p. 849 (Tokyo and  
Hiroshima). — Fowler, Proc. Acad.  
Nat. Sci. Philadelphia, 1912, p. 9

(Hiroshima and Tokyo). — Snyder,  
Proc. U. S. Nat. Mus., vol. 42, 1912,  
p. 406 (Hakodate, Tokyo, Shiogama).

— Jordan and Metz, Mem. Carnegie  
Mus., vol. 6, no. 1, 1913, p. 25 (Fusan).

— Izuka and Matsuura, Cat. Zool.  
Spec. Mus. Tokyo, Vertebr., 1920, p.  
170 (Tokyo).

Astroconger myriaster Jordan and Hubbs,  
Mem. Carnegie Mus., vol. 10, no. 2, June  
27, 1925, p. 195 (Misaki, Fukuoka,  
Mikawa Bay, Tokyo, Yokohama,  
Osaka, Fuku).

Conger vulgaris (not  
and Matsuura, Prelim. Cat. Fishes Mus.  
Tokyo, 1897, p. 7. ) Ishikawa



Leptocephalus flavirostris Snyder

Leptocephalus flavirostris Snyder,  
Proc. U. S. Nat. Mus., vol. 35, 1908, p. 93.

Misaki, vol. 42, 1912, p. 405, pl. 51, fig. 1  
(Misaki).

Alloconger flavirostris Jordan and Hubbs,  
Mem. Carnegie Mus., vol. 10, no. 2, June  
27, 1925, p. 195 (paratype).

Leptocephalus nystromi Jordan and Snyder

Leptocephalus nystromi Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 853, fig. 5. Nagasaki. — Jordan and Fowler, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 417 (Morioka). — Snyder, Proc. U. S. Nat. Mus., vol. 42, 1912, p. 406 (Tokyo; Kagoshima). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 9 (Nagasaki).

Conger nystromi Franz, ~~Abhandl.~~ Kon. Bayer. Akad. Wiss., vol. 4, Suppl. Band 1, 1910, p. 11 (Sagami Bay).



Rhynchocymba nystromi Jordan and  
Hubbs, Mem. Carnegie Mus., vol. 10,  
no. 2, June 27, 1925, p. 195 (types).

Conger marginatus (not Valenciennes)  
Günther, Rep. Voy. Challenger, vol. 1,  
pt. 6, 1880, p. 73 (Inland Sea of Japan).

Conger cinereus (not Rüppell) Weber  
and Beaufort, Fishes Indo Austral.  
Archipelago, vol. 3, 1916, p. 258  
(part, on Leptocephalus nystromi).

Leptocephalus ectenurus Jordan and Richardson

Leptocephalus ectenurus Jordan and Richardson, Mem. Carnegie Mus., vol. 4, no. 4, Aug. 28, 1911, p. 171, pl. 66 (lower figure). Takao.

Rhynchoconger ectenurus Jordan and Hubbs, Mem. Carnegie Mus., vol. 10, no. 2, June 27, 1925, p. 196 (type of Leptocephalus ectenurus). — Chen, Bull. Biol. ~~Dep.~~ Sun Yat-sen Univ., vol. 1, no. 1, 1929, p. 12, fig. 5 (profile and dentition) (Foochow).

Conger ectenurus Fowler, Hong Kong Naturalist, vol. 3, no. 1, March 1932, p. 52 (compiled).



Larval Leptocephali

1712

Not Order Malesidea

Diagramma sebae Bleeker, Verhand.  
 Batav. Genootsch. (Scienc.), vol. 23,  
 1850, p. 24. Batavia; Banda, Neira. —  
Günther, Cat. Fishes Brit. Mus., vol. 1,  
 1859, p. 331 (copied). — Kner, Reise Novara,  
 Fische, 1865, p. 54 (Java). — Pellegrin,  
 Bull. Soc. Zool. France, vol. 39, 1914, p.  
 226 (Diego, Suarez, Madagascar).

Plectrohynchus sebae Bleeker, Atlas  
 Ichth. Ind. Néerl., vol. 7, 1873-76, pl.  
 (27) 305, fig. 3.

Plectrohynchus sebae Fowler, Journ. Acad.  
 Nat. Sci. Philadelphia, series 2, vol. 12,  
 1904, p. 528 (Padang).

Diagramma vavau Chapuis, Fauna Woodlark,  
 1857, p. 158. Woodlark Island.



Leptocephalus acuticaudatus Kaup

Leptocephalus acuticaudatus Kaup,  
Cat. Apodal Fish Brit. Mus., 1856, p.  
15, pl. 18, fig. 16. Malabar. — Weber,  
Siboga ~~Exped.~~, vol. 57, Fische, 1913, p.  
64 (reference).

Leptocephalus altus Richardson

Leptocephalus altus Richardson,

Ichth. Voy. Erebus and Terror,

1844-48, p. 51, pl. 30, figs. 8-10. No

locality.



1715

Leptocephalus australis (Castelnau)  
Conger australis Castelnau, Proc. Linn.  
Soc. New South Wales, vol. , 1879, p.  
396. New South Wales.

Leptocephalus brevicandus Peters

Leptocephalus (Diaphanichthys)

brevicandus Peters, Monatsber. Akad.

Wiss. Berlin, 1864, p. 399. Between

Maybata and Luzon.

Leptocephalus brevicandus Bleeker,

Atlas Ichth. Ind. Néerl., vol. 4, 1864,

p. 123 (compiled). — Günther, Cat.

Fishes Brit. Mus., vol. 8, 1870, p. 142

(compiled). — Weber, Siboga Exped.,

vol. 57, Fische, 1913, p. 65 (reference).



1717

Leptocephalus ceramensis Bleeker  
Leptocephalus ceramensis Bleeker,  
Atlas Ichth. Ind. Néerl., vol. 4, 1864,  
p. 123, pl. (49) 193, fig. 3. Wahai,  
Ceram. — Günther, Cat. Fishes Brit.  
Mus., vol. 8, 1870, p. 143 (type; old  
collection). — Weber and Beaufort,  
Fishes Indo Austral. Archipelago,  
vol. 3, 1916, p. 408 (compiled).

Leptocephalus dentex Cantor

1718

Leptocephalus dentex Cantor, Journ.  
Asiatic Soc. Bengal, vol. 18, pt. 2,  
1849, p. 1316. Pinang (in Johnius  
diacanthus). — Bleeker, Atlas Ichth.  
Ind. Néerl<sup>and</sup>, vol. 4, 1864, p. 122  
(compiled). — Günther, Cat. Fishes  
Brit. Mus., vol. 8, 1870, p. 142 (Ganzibar;  
type of Leptocephalichthys taenioides;  
S.  $31^{\circ}$  W.  $45^{\circ}$ ). — Weber, Siboga Exped.,  
vol. 57, Fische, 1913, p. 64 (reference).  
— Weber and Beaufort, Fishes Indo  
Austral. Archipelago, vol. 3, 1916, p.  
408 (reference).



Leptocephalichthys taenia (not <sup>1719</sup>  
Lesson) Bleeker, Natuurk. Tijdschr.  
Nederl. Indië, vol. 8, 1855, p. (393)  
428. Amboina.

Leptocephalichthys taenioides Bleeker,  
Act. Soc. Sci. Ind. Néerl. (Enumerat.),  
vol. , 185 , p. 180. Amboina.

Leptocephalus taenioides Bleeker, Atlas  
Ichth. Ind. Néerl., vol. 4, 1864, p. 123,  
pl. (48) 192, fig. 4 (type). — Weber,  
Siboga Exped., vol. 57, Fische, 1913,  
p. 66 (Amboin). — Weber and Beaufort,  
Fishes Indo Austral. Archipelago,  
vol. 3, 1916, p. 408 (reference).



Leptocephalus dussumieri Kaup

Leptocephalus dussumieri Kaup, Cat. Apodal  
Fishes Brit. Mus., 1856, p. 151, pl. 19, fig.  
17. Malabar. — Günther, Cat. Fishes Brit.  
Mus., vol. 8, 1870, p. 144 (reference). —  
Peters, Monatsber. Akad. Wiss. Berlin,  
1876 (1877), p. 851 (Pacific Ocean). —  
Weber, Siboga Exped., vol. 57, Fische,  
1913, p. 64 (note). — Fowler, Mem. Bishop  
Mus., vol. 10, 1928, p. 39 (compiled).

174  
Leptocephalus hyorti Weber

Leptocephalus hyorti Weber, Siboga Exped.,  
vol. 57, Fische, 1913, p. 71, figs. 16-17, p.  
78. S.  $5^{\circ}26' E$ ,  $121^{\circ}18'$ , 1944 meters. —

Weber and Beaufort, Fishes Indo  
Austral. Archipelago, vol. 3, 1916, p. 402,  
figs. 202-203 (type).

Leptocephalus hypselosoma (Bleeker)

Leptocephalichthys hypselosoma Bleeker,  
Act. Soc. Sci. Ind. Néerl.<sup>and</sup>, no. 3, vol. 1,  
1856, p. (6) 69. Manado, Celebes. —

Günther, Cat. Fishes Brit. Mus., vol.  
8, 1870, p. 140 (type).

Leptocephalus hypselosoma Bleeker, Atlas  
Ichth. Ind. Néerl.<sup>and</sup>, vol. 4, 1864, p. 124,

pl. (37) 181, fig. 5 (type). — Weber,

Siboga Exped., vol. 57, Fische, 1913, p.

66 (note). — Weber and Beaufort,

Fishes Indo Austral. Archipelago, vol.

3, 1913, p. 408 (Manado example).



Leptocephalus javanicus Strömman

Leptocephalus javanicus Strömman,

Leptoceph. Univ. Zool. Mus. Upsala,

1896, p. 30, pl. 3, fig. 13. Bali Straits.

— Weber, Siboga Exped., vol. 57, Fische,

1913, p. 67 (reference). — Weber and

Beaufort, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 409 (copied).

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466

L. b. by

Leptocephalus malabaricus Day <sup>1724</sup>

Leptocephalus malabaricus Day, Proc.  
Zool. Soc. London, 1865, p. 308.

Fishes of Malabar, 1865, p. 252. —

Weber, Siboga Exped., vol. 57, Fische,  
1913, p. 65 (reference).

2 Leptocephalus mirabilis Brauer  
Leptocephalus mirabilis Brauer, Deutsch.  
Tiefsee Exped. Valdivia, vol. 15,  
Tiefsee Fische, 1906, p. 125. East of Zanzibar.  
— Weber, Siboga Exped., vol. 57, Fische,  
1913, p. 76, figs. 25-26 (Banda Sea,  
2477 meters). — Weber and Beaufort,  
Fishes Indo Austral. Archipelago,  
vol. 3, 1916, p. 406, figs. 208-209 (type).



Leptocephalus morrissii Gmelin

Leptocephalus morrissii Gmelin, Syst.

Nat. Linn., vol. 1, 1789, p. 1150. Sea near

Holyhead, England. — Schneider, Syst.

Ichth. Bloch, 1801, p. 133 (on Gmelin). —

Cloquet, Dict. Sci. Nat., vol. 20, 1821, p.

244 (reference). — Bonaparte, Cat.

Method. Pesc. Europ., 1846, p. 40 (Atlantic;

Britain). — Bleeker, Natuurk. Tijdsch.

Nederl. Indië, vol. 21, 1860, p. 56 (name

only). — Günther, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 139 (Polperro;

Bridgewater; Madeira; Southern

Europe; Messina; Nice; Australia).

Leptocephalus morrisoni Kaup, Cat.  
Apodal Fish Brit. Mus., 1856, p. 147  
(copied).

Leptocephalus morrisianus Lacépède,  
Hist. nat. Poiss., vol. 2, 1800, pp. 142, 143,  
pl. 3, fig. 2 (Holyhead).

Ophidium pellucidum Couch, Mag. nat.  
Hist. London, vol. 5, 18 , pp. 313, 742.

Leptocephalus pellucidus Bonaparte,  
Cat. Method. Pesc. Europ., 1846, p. 40  
(Mediterranean).

Leptocephalus spalangani (not Risso 1810)  
Hist. nat. Eur. Mérid., vol. 3, 1826, p. 205  
(copied). — Kaup, Cat. Apodal  
Fish Brit. Mus., 1856, p. 147 (copied).



Leptocephalus gussoni Cocco, <sup>1728</sup> Isis,  
1831, p. 1340.

Leptocephalus candidissimus Costa,  
Fauna Napoli, Pesc., 1841, pl. 100.

Helnichthys diaphanus Costa, Fauna  
Napoli, Pesc., 1841, pl. 31.

Leptocephalus diaphanus Kaup, Cat.  
Apodal Fish Brit. Mus., 1856, p. 148,  
pl. 17, fig. 9 (Paris Museum; Messina).

Leptocephalus punctatus Kaup, Cat.  
Apodal Fish Brit. Mus., 1856, p. 148,  
pl. 17, fig. 8. Nice.

Lepidopus pallidus (Savigny) Kaup, Cat.  
Apodal Fish Brit. Mus., 1856, p. 148  
(name in text; based on same type as  
Leptocephalus punctatus).



Leptocephalus köllickeri Kaup, Cat.

Apodal Fish Brit. Mus., 1856, p. 148,  
pl. 17, fig. 10. Messina.

Leptocephalus gegenbauri Kaup, Cat.

Apodal Fish Brit. Mus., 1856, p. 149,  
pl. 17, fig. 11. Messina.

Leptocephalus bibroni Kaup, Cat. Apodal

Fish Brit. Mus., 1856, p. 149, pl. 17,

fig. 12. no locality (Messina).

Leptocephalus multimaculatus Steindachner

Leptocephalus multimaculatus Steindachner,

Sitz. Ber. Akad. Wiss. Wien, math.

naturw. Klasse, vol. 60, pt. 1, 1869

(1870), p. 316. Peru coast. — Schmeltz,

Cat. Mus. Godeffroy, no. 3, 1874, p. 38

(South Sea); no. 7, 1879, p. 61 (South

Sea). — Fowler, Mem. Bishop Mus.,

vol. 10, 1928, p. 40 (compiled); vol. 11,

no. 5, 1931, p. 316 (reference).

Leptocephalus nuttalli (Fowler)

Aetopichthys nuttalli Fowler, Proc. Acad.  
Nat. Sci. Philadelphia, 1912, p. 11, fig.  
2. Hawaiian Islands; Copeia, no. 112,  
Nov. 20, 1922, p. 82 (Hawaii).

Leptocephalus nuttalli Fowler, Mem.  
Bishop Mus., vol. 10, 1928, p. 39, fig. 8  
(type).



Leptocephalus oculus (Peters)

Helmichthys oculus Peters, Monatsber.  
Akad. Wiss. Berlin, 1866, p. 525,  
fig. 4. Amboyna. — Günther, Cat.  
Fishes Brit. Mus., vol. 8, 1870, p. 140  
(Madagascar). — Martens, Preuss.  
Exp~~ed.~~. Ost-Asien, vol. 1, 1876, p. 405  
(Amboina River). — Weber, Siboga  
Exp~~ed.~~, vol. 57, Fische, 1913, p. 65 (note).  
— Weber and Beaufort, Fishes Indo  
 Austral. Archipelago, vol. 3, 1916, p.  
408 (note).

Leptocephalus oculus Bleeker, Rech.

Faune Madagascar, pt. 4, 1874, p. 73  
(reference).

Leptocephalus subinornatus Strömmann

Leptocephalus subinornatus Strömmann,

Leptoceph. Univ. Zool. Mus. Lipsala,

1896, p. 36, pl. 4, figs. 1-2. East coast

South Africa N.  $29^{\circ}20'$  E.  $58^{\circ}40'$ . —

Weber, Siboga Exped., vol. 57, Fische,

1913, p. 67 (note).



Leptocephalus taenia <sup>1734</sup> Duoy and Gaimard  
Leptocephalus taenia (Cuvier) Duoy and  
Gaimard, Voy. Uranie, Zool., 1824, p.  
248. New-Guinea. — Lesson, Voy. Coquille,  
Zool., vol. 2, pt. 1, 1830, p. 126 (New  
Guinea). — Kaup, Cat. Apodal Fish  
Brit. Mus., 1856, p. 151, pl. 19, fig. 18  
(Marianne). — Bleeker, Natuurk.  
Tijdschr. Nederland Indië, vol. 21, 1860,  
p. 56 (reference); Atlas Ichth. Ind.  
Néerl<sup>and</sup>, vol. 4, 1864, p. 122, pl. (48) 92,  
fig. 2 (compiled). — Schmeltz, Cat. Mus.  
Godeffroy, no. 4, 1869, p. 27 (South Seas).  
— Günther, Cat. Fishes Brit. Mus.,  
vol. 8, 1870, p. 143 (Zanzibar, South



Atlantic, S.  $31^{\circ}$  W.  $45^{\circ}$ ). — Schmiedt<sup>1735</sup>,  
Cat. Mus. Godeffroy, no. 7, 1879, p. 60  
(South Sea). — Töhl, Cat. Mus.  
Godeffroy, no. 9, 1884, p. 40 (South  
Sea). — Günther, Rep. Voy. Challenger,  
vol. 31, pt. 2, 1888 (1889), p. 42  
(Admiralty Islands). — Weber, Siboga  
Exp~~er~~, vol. 57, Fische, 1913, p. 67 (note),  
p. 78 (Flores Sea, Borneo Bank, Ceram  
Sea, Lucipara Islands, Banda Sea).  
— Weber and Beaufort, Fishes Indo  
Austral. Archipelago, vol. 3, 1916, p.  
404, figs. 204-206 (Sailus Ketjil,  
Paternoster Islands; Borneo Bank;  
Ceram Sea; Lucipara; Banda Sea).

— Fowler, Mem. Bishop Mus., vol. 10,  
1928, p. 39 (compiled); vol. 11, no. 5,  
1931, p. 316 (reference).

§ Leptocephalus marginatus (Quoy and  
Gaimard) Kaup, Cat. Apodal Fish  
Brit. Mus., 1856, p. 152, <sup>pl.</sup> fig. 19.

Pondicherry.

Leptocephalus lineo-punctatus Kaup,  
Cat. Apodal Fish Brit. Mus., 1856, p.  
152, pl. , fig. 20. no locality.

Leptocephalus scheeli Strömmann, Leptoceph.  
Univ. Zool. Mus. Upsala, 1896, p. 21.  
Malayan Archipelago; Atlantic. —

Weber, Siboga Exped., vol. 57, Fische,  
1913, p. 66 (note).



Genus Congermuraena Kaup

Congermuraena Kaup, Cat. Apodal Fish  
Brit. Mus., 1856, p. 108. Type

Congrus habenatus Richardson, designated  
virtually by Ogilby, Proc. Linn. Soc. New  
South Wales, vol. 23, pt. 3, August 31,  
1898, p. 285.

Congromuraena Günther, Cat. Fishes Brit.  
Mus., vol. 8, 1870, p. 40. Type Congrus  
habenatus Richardson.

Gnathophis Kaup, ~~Abhandl.~~ Nat. Verein  
Hamburg, vol. 4, pt. 2, 1859 (1860), p. 7.

Type Myrophis heterognathus Bleeker,  
monotypic.



Congruscus Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27, 1925,  
p. (191) 193. Type Congromuraena  
megastoma Schlegel, orthotypic.

Head moderate, much shorter than trunk. Eyes large. Teeth mostly granular, outer series in jaws acute. Vomerine teeth well developed. Dorsal begins behind pectoral bases. Pectorals well developed. Vent well before middle in length.

The following doubtful species  
imperfectly described:

1739

Conger muraena neoguianicus (Bleeker)

Conger neoguianicus Bleeker, Act.  
Soc. Sci. Ind. Néerl<sup>and</sup>, vol. 6, no. 2,  
1859, p. (5) 22. Dorey, New Guinea. —  
Fowler, Mem. Bishop Mus., vol. 10, 1928,  
p. 39 (copied).

Conger neoguinaicus Günther, Cat. Fishes  
Brit. Mus., vol. 8, 1870, p. 43 (note).

Ophisoma neoguinaicum Bleeker, Atlas  
Ichth. Ind. Néerl<sup>and</sup>, vol. 4, 1864, p. 28  
(copied).

Conger muraena neoguinaica Ogilby,  
Proc. Linn. Soc. New South Wales, vol.  
23, pt. 3, August 31, 1898, p. 286 (note).

Congrellus neoguinaicus Weber and  
Beaufort, Fishes Indo Austral.  
Archipelago, vol. 3, 1916, p. 263 (note  
on Bleeker's specimen).



# Analysis of species

a. Conger muraena. Tip of caudal black or brown, not narrowly white.

b. <sup>1</sup> Vertical fins without dark margins; eye  $5\frac{1}{2}$  in head,  $1\frac{1}{2}$  in snout. albescens.

b. <sup>2</sup> Vertical fins with dark edging.

c. <sup>1</sup> Head and trunk  $1\frac{1}{2}$  or less in tail.

d. <sup>1</sup> Eye  $4\frac{1}{2}$  to 5 in head, rarely equals snout. australis.

d. <sup>2</sup> Eye 6,  $1\frac{4}{5}$  in snout. habenata.

c. <sup>2</sup> Head and trunk  $1\frac{3}{4}$  in tail.

heterognatha.

a. <sup>2</sup> Congrisceus. Tail, including dorsal and anal, posteriorly blackish, tip of caudal narrowly white; eye  $4\frac{1}{2}$  in head,  $1\frac{3}{4}$  in snout. megastoma.

Congeruraena albescens Barnard

Congeruraena albescens Barnard,  
Ann. South African Mus., vol. 13, pt. 8,  
1923, p. 442. Off Cape Point, 200 fathoms;  
vol. 21, pt. 1, <sup>June</sup> 1925, p. 189, pl. 9, fig. 1 (type).

Conger muraena australis Barnard

Conger muraena australis Barnard,

Ann. South African Mus., vol. 13, pt. 8,  
1923, p. 442.

vol. 21, pt. 1, June 1925, p. 190 (west coast  
South Africa, off Cape Peninsula, False  
Bay, Tristan d'Akunha, 2 to 60 fathoms).

? Leptocephalus capensis (Lalande) Kaup,  
Cat. Apodal Fish Brit. Mus., 1856, p. 153.

Cape of Good Hope.



Conger muraena habenata (Richardson)  
Congrus habenatus Richardson, Ichth.  
 Voy. Erebus and Terror, 1844-48, p.  
 109, pl. 50, figs. 1-5. Cook's Straits,  
 New Zealand.

Conger muraena habenata Kaup,  
 Archiv Naturg., 1856, pt. 1, p. 71  
 (reference); Cat. Lipodid Fish.  
 Brit. Mus., 1856, p. 108, pl. 14,  
 fig. 72 (head and dentition) (copied).  
 — Ogilby, Proc. Linn. Soc. New South  
 Wales, vol. 23, pt. 3, Aug. 31, 1898, p.  
 285 (reference). — McCulloch, Fishes  
 New South Wales, ed. 2, 1927, p. 23, pl.  
 8, fig. 80a.

Congromuraena habenata Castelnau,  
 Proc. Zool. Acclim. ~~Soc.~~ Soc. Victoria,  
 vol. 1, 1871, p. 194 (Melbourne market);  
 Record London Internat Exhib., 1873, p. 16  
 (Victoria).

Congromuraena habentata Hector, Handbook  
 New Zealand, 1879, p. 16 (error).

Ophisoma habenatus Kner, Reise Novara,  
 Fische, 1865, p. 374 (St. Paul Island).

Ophisoma habenatum Kner, Reise Novara,  
 Fische, 1865, pl. 13, fig. 2.

Congromuraena longicauda Ramsay and  
Gilby, Proc. Linn. Soc. New South Wales,  
 ser. 2, vol. 2, March 21, 1888, p. 1022.

Macamatta River, New South Wales.

Congeruraena longicauda Ogilby, Proc.  
Linn. Soc. New South Wales, vol. 23, pt.  
3, Aug. 31, 1898, p. 285 (New South Wales).

Congeruraena sancti pauli Ogilby, Proc.  
Linn. Soc. New South Wales, vol. 23, pt. 3,  
Aug. 31, 1898, p. 285 (name on Kner).



Congeruraena heterognatha (Bleeker)  
Myrophis heterognathos Bleeker, Act.  
 Soc. Sci. Ind. Néerland. 9, vol. 5,  
 1858-59, p. (2) 9, pl. 1, fig. 3, pl. 3, fig.  
 1. Nagasaki; Atlas Ichth. Ind. Néerland.  
 vol. 4, 1864, p. 28 (note).

Myrophis heterognathus Günther, Cat.  
 Fishes Brit. Mus., vol. 8, 1870, p. 43  
 (type).

Gnathophis heterognathus Kaup, ~~Abhandl.~~  
 Nat. Verein Hamburg, vol. 4, pt. 2, 1859  
 (1860), p. 7 (on Bleeker).

Congeruraena heterognatha Ogilby,  
 Proc. Linn. Soc. New South Wales, vol. 23,  
 pt. 3, August 31, 1898, p. 286 (reference).

Leptocephalus heterognathus Jordan  
and Snyder, Proc. U. S. Nat. Mus., vol.  
23, 1901, p. 851 (compiled). — Jordan  
and Richardson, Mem. Carnegie Mus.,  
vol. 4, no. 4, August 28, 1909, p. 172  
(reference).

Congeruraena megastoma Günther

Congromuraena megastoma Günther,

Rep. Voy. Challenger, vol. 1, pt. 6, 1880, p.

73. Off Enosima.

Congrellus megastomus Ogilby, Proc. Linn.

Soc. New South Wales, vol. 28, pt. 3,

August 31, 1898, p. 291 (reference). — Franz,

~~Abhandl.~~ Bayer. Akad. Wiss., vol. 4,

Suppl. band 1, 1910, p. 12 (Aburatsubo).

Leptocephalus megastomus Snyder, Proc.

U. S. Nat. Mus., vol. 42, 1912, p. 405

(Yokohama). — Izuka and Matsuura,

Cat. Zool. Spec. Tokyo Mus., Vertebr.,

1920, p. 173 (Yaeyamajima).



Congruscus megastomus Jordan and  
Hubbs, Mem. Carnegie Mus., vol. 10,  
no. 2, June 27, 1925, p. 193 (reference).

Genus Ariosoma Swainson <sup>1757</sup>

Ariosoma Swainson, Nat. Hist.

Animals, vol. 1, 1838, p. 220. Cotype.

Type Muraena balearica De la Roche,

affixed by Jordan, Genera of Fishes,

pt. 2, 1919, pp. 193, 198.

Ophisoma Swainson, Nat. Hist.

Animals, vol. 2, 1839, p. 334. Type

Ophisoma acuta Swainson, designated

by Bleeker, Atlas Ichth. Ind. Néerl.,

vol. 4, 1864, p. 20. (Versus Ophisomus

Swainson, Nat. Hist. Animals, vol. 2,

1839, p. 277, type Ophisomus obtusum

Swainson, wrongly designated by

Swain, Proc. Acad. Nat. Sci.

Philadelphia, 1883, p.

1752

Congrellus Ogilby, Proc. Linn. Soc.  
New South Wales, vol. 28, pt. 3,

Aug. 31, 1898, p. 286. Type Muraena  
balearica de la Roche, orthotypic.

Anago Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27,  
1925, p. (191) 193. Type Conger anago  
Schlegel, orthotypic.

Congrina Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27,  
1925, p. 196. Type Congromuraena  
aegorea Gilbert and Cramer,  
orthotypic.



1753

Head small, much shorter than trunk. Eyes large. Mouth cleft not or quite reaches opposite eye center. Teeth acicular, upper not extended conspicuously forward beyond mandible. Vomerine teeth well developed. Dorsal begins above or nearly over pectoral bases. Pectorals well developed. Vent usually but little advanced from middle.

Analysis of species

a.<sup>1</sup> Vertical fins without black border.

b.<sup>1</sup> Body uniformly pale. obud.

b.<sup>2</sup> Series of small black spots or dots along above and below lateral line. guttulata.

b.<sup>3</sup> Tail blackish terminally, though greater part of dorsal and anal pale like body. retroincta.

a.<sup>2</sup> Vertical fins with dark or black border all around.

c.<sup>1</sup> Dorsal origin over gill opening. bowersi.

c.<sup>2</sup> Dorsal origin over pectoral origin. anago.

c.<sup>3</sup> Dorsal origin opposite first  $\frac{4}{5}$  or  $\frac{4}{5}$  of depressed pectoral. brachyrhynchus.

Analysis of genera

a. <sup>up</sup> Front nostrils in tube.

b. Mouth cleft reaching to eye; teeth  
in broad bands



Ariosoma obud Herre

Ariosoma obud Herre, Philippine

Journ. Sci., vol. 23, no. 2, Aug. 1923, p.

144, pl. 1, fig. 2. Marinduque Island.

Depth  $2\frac{7}{8}$  to 3 in head,  $15\frac{1}{3}$  to 16 to caudal base; head  $5\frac{1}{3}$  to  $5\frac{2}{3}$ ,  $2\frac{2}{5}$  to  $2\frac{1}{2}$  to vent, width  $3\frac{1}{2}$  to  $3\frac{3}{4}$  in its length; combined head and trunk  $1\frac{1}{8}$  to  $1\frac{2}{7}$  in tail to caudal base. Snout 4 to  $4\frac{1}{3}$  in head; eye  $4\frac{1}{3}$  to 5, 1 to  $1\frac{1}{8}$  in snout,  $\frac{1}{3}$  more to twice interorbital; mouth cleft reaches  $\frac{1}{5}$  in eye, length  $3\frac{1}{4}$  to  $3\frac{3}{5}$  in head, upper jaw but slightly protruded, none of teeth exposed on premaxillaries with closed jaws; teeth fine, minute, in narrow bands in jaws and short extension on vomer; interorbital  $6\frac{1}{3}$  to  $8\frac{2}{3}$  in head, low. Gill opening 7 to  $9\frac{4}{5}$ , below middle of pectoral base.

Lateral line axial, distinct,  
complete.

1756

Dorsal origin begins over first  $\frac{1}{4}$   
to  $\frac{2}{5}$  of depressed pectoral, fin height  
3 to  $4\frac{3}{4}$  in head; anal fin height  
 $4\frac{1}{4}$  to  $5\frac{1}{5}$ ; caudal length  $8\frac{3}{4}$  to  $9\frac{1}{2}$ ;  
pectoral  $2\frac{2}{3}$  to 3.

Brown, under surface of head  
and belly whitish. Iris gray. Fins  
all pale brown, uniform.

Philippines.

21779 and

21780. Cebu market. March 20, 1909.  
Length 80 to 203 mm. 5 examples.

6464 and 6465. Cebu market, August  
13, 1909. Length 150 to 154 mm.

to

21658, 21660, 21662, 21752. Cebu market.  
August 28, 1909. Length 120 to 168 mm.

5364. Oton market, Iloilo. March 30,  
1908. Length 69 mm.



Ariosoma guttulata (Günther)

Congromuraena guttulata Günther, Rep.

Voy. Challenger, vol. 22, 1887, p. 252.

S.  $19^{\circ}9'E$ ,  $179^{\circ}41'50''$ , off Matuku, Fiji,

315 fathoms. — Goode and Bean, Oceanic

Ichth., 1895, p. 138 (reference). — Aloock,

Cat. Deep Sea Fishes Indian Mus., 1899,

p. 199 (off Malabar coast, 636 fathoms). —

Günther, Journ. Mus. Godeffroy, vol. 9,  
pt. 17, 1910, p. 394 (type).

Congrellus guttulatus Ogilby, Proc. Linn. Soc.

New South Wales, vol. 28, pt. 3, Aug. 31, 1898,

p. 292 (note). — Jordan and Seale, Bull. Bur.

Fishes, vol. 25, 1905 (1906), p. 193 (Apia).



Conger guttulatus Fowler, Mem.

Bishop Mus., vol. 10, 1928, p. 39

(Samoa).

Ariosoma retroincta (Jordan and Snyder)

Leptocephalus retroinctus Jordan and Snyder,

Proc. U. S. Nat. Mus., vol. 23, 1901, p. 853,

fig. 6. Tokyo, Japan.

Conger retroinctus Franz, ~~Abh.~~ Kon.

Bayer. Akad. Wiss., vol. 4, Suppl. band

1, 1910, p. 12 (Uzusha').

Congerina retroincta Jordan and Hubbs,

Mem. Carnegie Mus., vol. 10, no. 2, June 27,

1925, p. 197 (Misaki).

Ariosoma boweri (Jenkins)<sup>1760</sup>

Congrellus boweri Jenkins, Bull. U. S.  
Fish Comm., vol. 22, 1902 (1903), p. 422,  
fig. 1. Honolulu. — Snyder, Bull. U. S.  
Fish Comm., vol. 22, 1902 (1904), p. 515  
(Honolulu). — Jordan and Evermann,  
Bull. U. S. Nat. Mus., vol. 23, pt. 1, 1903  
(1905), p. 77, fig. 16 (Hilo; Honolulu).

— Fowler, Proc. Acad. Nat. Sci.

Philadelphia, 1912, p. 11 (Honolulu).

Congromuraena bowersii Günther, Journ.  
Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 394  
(south of Gilbert Islands).

Congeromuraena bowersii Fowler, Copeia,  
no. 112, nov. 20, 1922, p. 82 (Hawaii).



1761

Ariosoma bowersi Fowler, Bull. Bishop  
Mus., no. 22, 1925, p. 23 (Honolulu).

Alloconger bowersi Jordan and Hubbs,  
Mem. Carnegie Mus., vol. 10, no. 2, June  
27, 1925, p. 195 (Hawaiian Islands).

Conger bowersi Fowler, Bull. Bishop  
Mus., no. 38, 1927, p. 5 (Honolulu);

Mem. Bishop Mus., vol. 10, 1928, p. 39,  
pl. 1d (Honolulu; type).

Arioxoma anago (Schlegel) <sup>1762</sup>

Conger anago Schlegel, Fauna Japonica,  
Poiss., pts. 10-14, 1846, p. 259.

Nagasaki Bay. — Bleeker, ~~Verhandl.~~  
~~Batavia~~. Genootsch. (hal. Ich. Japan),  
vol. 25, 1853, p. (19) 52 (Nagasaki);  
(hal. Ich. Japan), vol. 26, 1857, p. 6  
(Nagasaki); Act. Soc. Sci. Ind.  
Néerl.<sup>and</sup>, no. 3, vol. 3, 1857-58, p. 6 (Japan);  
Natuurk. Tijdschr. Nederl.<sup>and</sup> Indië, vol.  
20, 1859-60, p. 235 (Nagasaki). — Franz,  
~~Abhandl.~~ Kon. Bayer. Akad. Wiss.,  
vol. 4, Suppl. band 1, 1910, p. 12  
(Yokohama; Aburatsubo). — Fowler and  
Bean, Proc. U. S. Nat. Mus., vol. 62,



1922, p. 9 (Takao; Cebu). — <sup>1763</sup>Fowler,  
Hong Kong Naturalist, vol. 2, no. 4,  
Nov. 1931, p. 287 (Hong Kong); vol. 3, no. 1,  
March 1932, p. 52 (Philippines, Formosa, Japan).  
Congromuraena anago Günther, Cat. Fishes  
Brit. Mus., vol. 8, 1870, p. 42 (Japan;  
Amboina; type of Conger anagoides).  
— Day, Fishes of India, pt. 4, 1878, p. 660,  
pl. 169, fig. 2. — Günther, Rep. Voy.  
Challenger, vol. 1, pt. 6, 1880, p. 73  
(Yokohama). — Károli, Termesz. Füzetek,  
Budapest, vol. 5, 1881, p. 185 (Nagasaki,  
Kobe, Yokohama). — Day, Fauna British  
India, vol. 1, 1889, p. 88, fig. 36. —  
Ishikawa and Matsuura, Prelim. Cat.  
Fishes Mus. Tokyo, 1897, p. 6.



1764

Congromuraena anango Martens, Preuss.  
Exped. Ost-Asien, vol. 1, 1876, p. 405  
(Yeddo; Amboina River; error).

Congermuraena anago Barnard, Ann.  
South African Mus., vol. 21, pt. 1, June  
1925, p. 190 (Katal coast, 22 fathoms).

Congrellus anago Ogilby, Proc. Linn. Soc.  
New South Wales, vol. 28, pt. 3, Aug. 31,  
1898, p. 290 (reference). — Jordan and Snyder,  
Proc. U. S. Nat. Mus., vol. 23, 1901, p. 855,  
fig. 8 (front of body) (Tokyo, Misaki, Kobe,  
Wakanoura, Nagasaki). — Fowler, Proc.  
Acad. Nat. Sci. Philadelphia, 1912, p. 11  
(Tokyo; paratype of Congrellus meeki).  
— Weber and Beaufort, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 262,  
fig. 109, text fig. 111 (dentition) (Pulu  
Weh near Sumatra; Moluccas). —

Deraniyagala, Ceylon Administrat. Rep.,  
1925, p. F15. — Sowerby, Naturalist in  
Manchuria, vols. 4-5, 1930, p. 153

(reference).

Leptocephalus anago Jordan and Snyder,  
Proc. U. S. Nat. Mus., vol. 23, 1901, p. 855,  
fig. 8 (Tokyo; Wakanoura). — Snyder,  
Proc. U. S. Nat. Mus., vol. 42, 1912, p. 405

(Misaki; Tokyo). — Jordan and Metz,  
Mem. Carnegie Mus., vol. 6, no. 1, June  
1913, p. 25 (Fusan). — Jordan and  
Thompson, Mem. Carnegie Mus., vol. 6,



no. 4, Sep. 1914, p. 234, fig. 10 (copied)  
(Shimonoseki). — Izuka and Matsura,  
Cat. Zool. Spec. Tokyo Mus., Vertebr.,  
1920, p. 173 (Tokyo).

Anago anago Jordan and Hubbs, Mem.  
Carnegie Mus., vol. 10, no. 2, June 27,  
1925, p. 193 (Misaki, Mikawa Bay,  
Toba, Tokyo). — Chen, Bull. Biol.  
Dep. Sun Yat Sen Univ., vol. 1, no. 1, 1929,  
p. 11, fig. 4 (dentition) (Daalong Bay and  
Ling sui, Hainan). — Anonymous,  
Illustrat. Jap. Aquat. Plants An.,  
vol. 1, 1931, pl. 20, fig. 6.



Anguilla japonica (not Schlegel p. 258)<sup>1767</sup>  
Schlegel, Fauna Japonica, Poiss., pts.  
10-14, 1846, pl. 113, fig. 1 (error in  
transposition).

Conger anagoides Bleeker, ~~Verhandl.~~  
~~Batavia~~. Genootsch. (Muraen.), vol. 25,  
1853, p. 76. Banda, Neira.

Ophisoma anagoides Bleeker, Atlas  
Ichth. Ind. Néerland., vol. 4, 1864, p.  
27 (Singapore, Celebes, Batjan, Amboina).  
— Kner, Reise Novara, Fische, 1865, p. 375  
(Java).

Conger muraena anagoides Bleeker,  
Atlas Ichth. Ind. Néerland., vol. 4, 1864,  
pl. (5) 149, fig. 3.

1768

Congrellus anagoides Ogilby, Proc.  
Linn. Soc. New South Wales, vol. 28,  
pt. 3, Aug. 31, 1898, p. 290 (reference).

Leptocephalus anagoides Jordan and  
Richardson, Mem. Carnegie Mus., vol.  
4, no. 4, Aug. 28, 1909, p. 171 (Takao).

Alloconger anagoides Jordan and Hubbs,  
Mem. Carnegie Mus., vol. 10, no. 2, June  
27, 1925, p. 195 (Takao example).

Congrellus fidjiensis Ogilby, Proc. Linn.  
Soc. New South Wales, vol. 23, Aug. 31,  
1898, p. 290. Fiji.

Conger fidjiensis Fowler, Mem. Bishop  
Mus., vol. 10, 1928, p. 38 (compiled).



Congrellus meeki Jordan and Snyder,<sup>1769</sup>  
Proc. U. S. Nat. Mus., vol. 23, 1900, p.  
347, pl. 11. Bay of Tokyo, Japan.

Depth 10 to  $14\frac{1}{2}$ ; head  $5\frac{1}{2}$  to 6,  
width  $2\frac{3}{4}$  to  $2\frac{4}{5}$ , length 1 to  $1\frac{1}{10}$  to  
dorsal origin,  $2\frac{2}{3}$  to 3 to anal origin.  
Snout  $5\frac{1}{3}$  to 6 in head; eye 5 to 7,  
subequal with snout or interorbital;  
mouth cleft reaches hind pupil edge,  
length 3 to  $3\frac{1}{3}$  in head; teeth conic,  
uniform, minute, in narrow bands  
in jaws and continuous patch of vomerine;  
interorbital 5 to 8, nearly level. Gill  
opening long as snout.



Dorsal origin about over pectoral origin; caudal short, about half length of pupil; pectoral  $2\frac{1}{2}$  to 3, elongate.

Largely brownish above, paler below, more or less whitish on lower surface of head and belly. Iris golden, with dusky ring. Dorsal and anal pale or whitish basally, edges broadly blackish, especially posteriorly. Caudal whitish. Pectoral variably pale or with upper and terminal portion blackish.

Natal, Ceylon, Singapore, East Indies, Philippines, China, Japan, Korea, Formosa, Polynesia

2 examples ~~and~~

A.N.S.P. 1771

Wakanoura, Japan. Stanford University.

Length

1 example. A.N.S.P. Tokyo, Japan.

Stanford University. Length

Ariosoma brachyrhynchus new species

Depth 2 to  $2\frac{1}{6}$  in head,  $10\frac{1}{2}$  to  $12\frac{7}{8}$  to caudal base; head  $5\frac{1}{5}$  to 6, 2 to  $2\frac{3}{5}$  to vent, width  $2\frac{3}{4}$  to 3 in its length; combined head and trunk  $1\frac{1}{3}$  to  $1\frac{1}{2}$  in tail to caudal base. Snout 5 to  $5\frac{7}{8}$  in head; eye  $3\frac{2}{5}$  to 6, little greater <sup>than snout</sup> in young to subequal with age, greater than interorbital; mouth cleft reaches  $\frac{1}{2}$  to nearly opposite hind eye edge with age, length  $2\frac{9}{10}$  to 3 in head; lower jaw very slightly protrudes so only 2 or 3 rows of premaxillary teeth exposed when mandible closes; teeth all small, simple, conic, in narrow bands in jaws and short row on head of vomer; interorbital  $4\frac{3}{4}$  to 6, with low median ridge. Gill opening  $5\frac{1}{5}$  to  $7\frac{1}{4}$ , below pectoral origin.

Lateral line axial, conspicuous, complete.

Dorsal origin over first  $\frac{2}{5}$  to  $\frac{4}{5}$



of depressed pectoral, fin height  $3\frac{2}{5}$  to  $4\frac{2}{5}$  in head; anal fin height  $5\frac{3}{4}$  to  $7\frac{1}{4}$ ; caudal  $6\frac{1}{2}$  to  $6\frac{2}{3}$ , pointed; pectoral  $2\frac{1}{2}$  to 3.

Brown, under surface of head whitish, trunk and tail also pale. Iris grayish. Inside mouth and gill opening pale. Fins pale brown. Vertical fins with narrow blackish border all around. Pectoral pale brown.

Diagnosis. Differs from Ariosoma obud in its much shorter and more obtuse muzzle.

Type no.

U. S. N. M.

1884. D. 5247. Dumalag Island (S.), S.  $78^{\circ}$  W., 3.8 miles (N.  $7^{\circ} 2'$  E.  $125^{\circ} 38' 45''$ ), Gulf of Davao. In 135 fathoms. May 18, 1908. Length  $27\frac{1}{2}$  mm.

10077. D. 5291. Escarceo Light, N.  $39^{\circ}$  W., 2.20 miles (N.  $13^{\circ} 29' 40''$  E.  $121^{\circ} 00' 45''$ ), China Sea vicinity of southern Luzon. In 173 fathoms. July 23, 1908. Length 303.

2838 and 2839. D. 5403. Capitanillo Island Light, S.  $46^{\circ}$  W., 15.7 miles (N.  $11^{\circ} 10'$  E.  $124^{\circ} 17' 15''$ ), between Leyte and Cebu. In 182 fathoms. March 16, 1909. Length 144 to 177 mm.

2 examples. Tataan Anchorage. February 21, 1908. Length 66 to 75 mm.

4434. D. 5161. Tinakta Island (E.), N.  $12^{\circ}$  W., 1.80 miles (N.  $5^{\circ} 10' 15''$  E.  $119^{\circ} 53'$ ), Sulu Archipelago, Tawi Tawi Group. In 16 fathoms. February 22, 1908. Length 73 mm.

5879. D. 5256. Utara Point, Bongo Island, N.  $76^{\circ}$  W., 7.80 miles (N.  $7^{\circ} 21' 45''$  E.  $124^{\circ} 7' 15''$ ), southern Mindanao, eastern Ilana Bay. In 158 fathoms. May 22, 1908. Length 330 mm. Type.



Genus Bathycongrus Ogilby

Bathycongrus Ogilby, Proc. Linn. Soc. New South Wales, vol. 23, 1898, p. 292. Type Congromuraena nasica Alecock, orthotypic. Hildebrandia Jordan and Evermann, Proc. California Acad. Sci., ser. 4, vol. 16, April 27, 1927, p. 502. Type Congromuraena flava Goode and Bean.

Eyes small. Mouth cleft extends behind middle of eye. Teeth acicular, upper extended forwards beyond mandible. Vomerine teeth more or less developed. Dorsal begins over or nearly over pectoral bases. Pectoral fins



usually short. Vent far before middle  
in length.

Analysis of species

1777

a. Microcephalocongrus new subgenus.

Head shorter than trunk.

b. Inside of gill opening pale.

c. Vertical fins without black edge.

d. Eye  $5\frac{1}{2}$  to 7,  $1\frac{3}{4}$  to 2 in snout.  
negrovirens.

d.<sup>2</sup> Eye 5,  $1\frac{2}{5}$  in snout. megalops.

c.<sup>2</sup> Vertical fins with narrow black edge in young; eye  $5\frac{4}{5}$ , 2 in snout.  
roosendaali.

b.<sup>2</sup> Inside of gill opening black; eye  $4\frac{7}{8}$  to 6,  $1\frac{2}{3}$  to  $1\frac{3}{5}$  in snout.  
stimpsoni.

a.<sup>2</sup> Bathycongrus. Head equals or little greater than trunk as measured to vent.

e.<sup>1</sup> Dorsal begins eye diameter or less before gill opening.

f.<sup>1</sup> Small patch of teeth anteriorly or on head of vomer; eye  $4\frac{1}{8}$ , equals snout. bleekeri.

f.<sup>2</sup> Few teeth on vomer anteriorly; eye 6 or more,  $1\frac{1}{2}$  in snout; vertical fins posteriorly with black edge. squaliceps.

f.<sup>3</sup> Teeth in very broad band moderately long, on vomer; eye  $8\frac{2}{3}$ , 2 in snout; fins nearly black. musteliceps.

e.<sup>2</sup> Dorsal begins over gill opening; eye 8, 2 in snout, gray, vertical fins with narrow black edge posteriorly. nasicus.



Bathycongrus macrocerus (Alcock)  
Congromuraena macrocerus Alcock,  
 Journ. Asiatic Soc. Bengal, vol. 63,  
 pt. 2, 1894, p. 134 (on Congromuraena  
longicauda Alcock 1889); vol. 65, pt. 2, 1896,  
 p. 337 (reference); Cat. Deep Sea Fishes  
 Indian Mus., 1899, p. 198 (Andaman  
 Sea, 265 fathoms; Bay of Bengal, 240  
 to 276 fathoms).

Bathycongrus macrocerus Ogilby, Proc.  
 Linn. Soc. New South Wales, vol. 28, pt. 3,  
 Aug. 31, 1898, p. 293 (reference).

Congromuraena longicauda (not Ramsay  
 and Ogilby) Alcock, Ann. Mag. Nat.  
 Hist., ser. 6, vol. 4, 1889, p. 455. Andaman

Sea, 265 fathoms; ser. ., vol. 8, 1891,  
p. 135 ( Bay of Bengal ); ser. 6, vol. 10,  
1892, p. 362 ( Bay of Bengal, 200 to 300  
fathoms ); Illustrat. Zool. Investigator,  
pt. 1, 1892, pl. 7, fig. 5.

Congeruraena longicauda Goode and  
Bean, Oceanic Ichth., 1895, p. 138  
(reference).

1781

Bathycongrus aequoreus (Gilbert and Cramer)

Conger muraena aequorea Gilbert and Cramer,  
Proc. U. S. Nat. Mus., vol. 19, 1897, p. 405, pl.  
37. N. 21° 12' W. 157° 38' 30", 375 fathoms.

Congrellus aequoreus Ogilby, Proc. Linn. Soc.  
New South Wales, vol. 28, pt. 3, Aug. 31, 1898,  
p. 291 (reference).

Leptocephalus aequoreus Gilbert, Bull.  
U. S. Fish Comm., vol. 23, pt. 2, 1903 (1905),  
p. 584 (off Oahu; Kauai; 164 to 469 fathoms).



argenteus (Cuv.) 1782

Bathycorpus philippinus ~~new species~~

Depth  $2\frac{1}{5}$ <sup>to  $2\frac{2}{3}$</sup>  in head,  $12\frac{1}{2}$ <sup>to  $18\frac{3}{4}$</sup>  to caudal  
base; head  $5\frac{2}{5}$ <sup>to 7</sup>,  $2\frac{1}{5}$ <sup>to  $2\frac{3}{4}$</sup>  to vent,  
width  $3\frac{1}{3}$ <sup>to 3</sup> in its length; combined  
head and trunk  $1\frac{3}{4}$ <sup>to  $1\frac{1}{2}$</sup>  in tail to  
caudal base. Snout  $3\frac{2}{5}$ <sup>to  $3\frac{2}{3}$</sup>  in head;  
eye  $5\frac{1}{2}$ <sup>to 7</sup>,  $1\frac{3}{4}$ <sup>to 2</sup> in snout, greatly  
or  $1\frac{1}{4}$  to  $1\frac{1}{2}$  times  
exceeds interorbital; mouth cleft  
reaches opposite hind pupil edge,  
 $2\frac{1}{2}$ <sup>to  $2\frac{4}{5}$</sup>  in head; teeth large, strong,  
simple, rather large patch on  
premaxillary exposed, in rather  
narrow bands in jaws with outer

1783

row enlarged and flaring little  
outward; <sup>n</sup> rather large prominent  
simple conic teeth on vomer; tongue  
free; interorbital <sup>8 3/5 to</sup> 9, convex. Gill  
<sup>5 1/8 to</sup> opening  $\wedge 7 \frac{4}{5}$ , below pectoral base.

Lateral line distinct, axial along  
side.

Dorsal origin <sup>to first fifth of depressed pectoral</sup> over gill opening  $\wedge$   
<sup>3 2/5 to</sup> fin height  $\wedge 4 \frac{1}{2}$  in head; anal fin  
<sup>4 1/2 to</sup> height  $\wedge 4 \frac{4}{5}$ ; caudal <sup>2 1/5 to 6 1/3</sup> ~~7 2/3~~, pointed,  
<sup>or long</sup> small, <sup>3 to</sup> pectoral  $3 \frac{1}{3}$ .

Largely uniform brown, under  
surface of head and branchiostegal



1794

paler to whitish. Iris gray white.

Fins all pale brownish, rays of dorsal medially more or less grayish; anal whitish only fin more grayish medially, becoming dark neutral gray posteriorly on fin, inclusive of caudal. Pectoral pale or whitish.

~~Diagnosis~~ Related to Bathycorpus nasicus but differing in proportions,

larger and stronger dentition. Premaxillary teeth more extended along lower profile of snout than in B. rooseadalli.

Upper, etc.

C. S. N. M.

6681. D. 5298. Matocot Point, S. 38° E., 6.70 miles (N. 13° 43' 25" E. 120° 57' 40"), China Sea. In 140 fathoms.

July 24, 1908.

Length 338 mm.



7722. Manila market, Luzon. <sup>1785-</sup>

March 20, 1908. Caudal  $2\frac{1}{2}$  in head.

Sides of head and fore part of side of trunk speckled with dark brown than body color. Length 308 mm.

8321. D. 5393. Panganalan Point, Talajit Island, S.  $81^{\circ}$  E. 2.9 miles (N.  $11^{\circ}56'40''$  E.  $124^{\circ}14'$ ), between Samar and Masbate. <sup>Depth 140 fathoms.</sup> March 13, 1909. Length 300 to 344

mm. 2 examples.

and 3694.

1786

3693, D. 5387. Bagatao Island Light (outer), S.  $80^{\circ}$  E., 27 miles (N.  $12^{\circ} 54' 48''$  E.  $123^{\circ} 20' 30''$ ), between Burias and Luzon. In 209 fathoms. March 11, 1909. Length <sup>to 290</sup> 258 mm.

Island

3757. D. 5388. Bagatao Light (outer), S.  $86^{\circ}$  E., 21 miles (N.  $12^{\circ} 51' 30''$  E.  $123^{\circ} 26' 15''$ ), between Burias and Luzon. In 226 fathoms. March 11, 1909. Length 318 mm.

4038. D. 5512. Camp Overton Light, S.  $76^{\circ}$  E., 14 miles (N.  $8^{\circ} 16' 2''$  E.  $123^{\circ} 58' 26''$ ), northern Mindanao and vicinity. In 445 fathoms. August 7, 1909. Length 395 mm.

4221. D. 5655. Cape Tabako, N.  $7^{\circ}$  E., 13 miles (S.  $3^{\circ} 34' 10''$  E.  $120^{\circ} 50' 30''$ ), Gulf of Boni, Celebes. In 608 fathoms. December 18, 1909. Length 148 mm.

2312 and 2313. D. 5402. Capitanillo Island Light, S.  $37^{\circ}$  W., 16.1 miles (N.  $11^{\circ} 11' 45''$  E.  $124^{\circ} 15' 45''$ ), between Leyte and Cebu. In 188 fathoms. March 16, 1909. Length 217 to 240



mm.

3953 and 3955. D. 5194. Chocolate Island, N.  $66^{\circ}$  W., 8 miles (N.  $11^{\circ}15'30''$  E.  $124^{\circ}11'$ ), off northern Cebu. In 148 fathoms. April 3, 1908. Length 204 to 222 mm.

1462 to 1464. D. 5550. Jolo Light (Jolo), N.  $83^{\circ}$  E., 15.5 miles (N.  $6^{\circ}2'$  E.  $120^{\circ}44'40''$ ), Jolo Island and vicinity. In 258 fathoms. September 17, 1909. Length 225 to 336 mm.

1391. D. 5505. Macabalan Point Light (Mindanao), S.  $31^{\circ}$  E., 7.7 miles (N.  $8^{\circ}37'15''$  E.  $124^{\circ}36'$ ), northern Mindanao and vicinity. In 220 fathoms. August 5, 1909. Length 270 mm.

3850. D. 5621. Makyan Island (S.), N.  $54^{\circ}$  W., 3 miles (N.  $0^{\circ}15'$  E.  $127^{\circ}24'35''$ ), In 298 fathoms. November 28, 1909. Length 264 mm.

2582. D. 5395. Panalangan Point, Talajit Island, S.  $81^{\circ}$  E., 2.9 miles (N.  $11^{\circ}56'40''$  E.  $124^{\circ}14'$ ), between Samar and Masbate. In 140 fathoms. March 15, 1909. Length 270 mm.



3806.D.5643. Pendek Island (N.), S.  
77°E., 1.7 miles (S. 5°11'45"E. 122°44'36"),  
Banton Strait. In 215 fathoms.  
December 15, 1909. Length 185 mm.

3536. D. 5348. Point Tabonan, S. 89°  
E., 33.5 miles (N. 10°57'45"E. 118°38'15"),  
Palawan Passage. In 375 fathoms.  
December 27, 1908. Length 235 mm.

✓ 2165 and 2166. D. 5523. Point Tagolo  
Light, S. 48°W., 6.7 miles (N. 8°48'44"  
E. 123°27'35"), northern Mindanao  
and vicinity. August 10, 1909. Length  
267 to 281 mm.

3374 and 3376. D. 5406. Ponson Island  
(N.), S. 88°E., 10.2 miles (N. 10°49'3"E. 124°  
22'30"), Dupon Bay, Leyte and vicinity.  
In 298 fathoms. March 17, 1909.  
Length 268 to 292 mm.

3445. D. 5542. Tagolo Light, S. 70°W., 13.2  
miles (N. 8°48'30"E. 123°35'30"), northern  
Mindanao and vicinity. In 200 fathoms.  
April 20, 1909. Length 264 mm.

3583. D. 5391. Tubig Point (Destacado Island), N.  $31^{\circ}$  E., 3 miles (N.  $12^{\circ}13'15''$  E.  $124^{\circ}5'3''$ ), between Samar and Masbate. In 118 fathoms. March 13, 1909. Length 201 mm.

2934 and 3523. D. 5392. Tubig Point, N.  $49^{\circ}$  E., 5 miles (N.  $12^{\circ}12'35''$  E.  $124^{\circ}2'48''$ ), between Samar and Masbate. In 135 fathoms. March 13, 1909. Length 162 to 273 mm.

47696 U.S.N.M. Hawaii. Albatross Station 3474. Length 190 and 523 mm. (type larger). 2 examples.

Bathycongrus megalops new species

Depth 3 in head, 19 to caudal base; head  $6\frac{1}{3}$ ,  $2\frac{1}{5}$  to vent, width  $3\frac{1}{4}$  in its length; combined head and trunk  $1\frac{4}{5}$  in tail to caudal base. Snout  $3\frac{3}{5}$  in head; eye 5,  $1\frac{2}{5}$  in snout, over twice interorbital; mouth cleft reaches  $\frac{2}{5}$  in eye, length  $2\frac{3}{4}$  in head; teeth conic, narrow in bands, largely small, only anterior little enlarged; premaxillary with broad exposed band, in about 5 irregular series, before closed



1791

mandible tip; few small teeth  
on front of vomer with median  
one little enlarged and prominent;  
interorbital  $1\frac{1}{2}$ , narrow, concave.  
Gill opening  $7\frac{1}{2}$ , before and below  
pectoral base.

Lateral line axial, complete,  
prominent.

Dorsal origin opposite first  
fifth of depressed pectoral, fin  
height  $3\frac{2}{5}$  in head; anal fin  
height 5; caudal  $4\frac{1}{4}$ , pointed;  
pectoral  $2\frac{4}{5}$ .

1792

Uniform pale brownish, slightly paler to whitish on under surface of head and belly. Inside mouth and gill openings whitish. Iris grayish. Opercles with large dark brown area. Fins all pale brown, edge of dorsal grayish or darker terminally. Anal and pectoral uniformly pale.

Diagnosis. Related to Bathyscongrus roosendaali Weber and Beaufort chiefly in its long caudal, dentition, mouth cleft, etc., though differs



in the greatly larger orbit,  
slightly backward dorsal origin  
and longer pectoral.

Type no.

U. S. N. M.

17804. D. 5527. Balicasag Island (C.),  
N.  $14^{\circ}$  W., 8.2 miles (N.  $9^{\circ}22'30''$  E.  $123^{\circ}42'40''$ ),  
northern Mindanao. In 392 fathoms.  
August 11, 1909. Length 330 mm.

Type.

4148. D. 5537. Apo Island (C.), S.  $46^{\circ}$  W.,  
11.8 miles (N.  $9^{\circ}11'$  E.  $123^{\circ}23'$ ), between  
Negros and Siquijor. In 254 fathoms.  
August 19, 1909. Length 96 mm. Two rows  
of black dots longitudinally on trunk  
and tail below, upper row more  
regular, with more dots and close to  
lateral line.



Bathycongrus roosendaali (Weber  
and Beaufort)

Congrellus roosendaali Weber and Beaufort,  
Fishes Indo Austral. Archipelago, vol.  
3, 1916, p. 261, fig. 110 (dentition), fig. 112.  
Off northeast point of Java, 270 meters.

Bathycangra gracilicauda new species

Depth  $2\frac{3}{4}$  to  $3\frac{1}{8}$  in head,  $17\frac{1}{5}$  to  $18\frac{1}{4}$   
to caudal base; head  $6\frac{1}{4}$  to  $6\frac{3}{5}$ ,  
 $2\frac{2}{5}$  to  $2\frac{2}{3}$  to vent, width  $3\frac{3}{5}$  to  $3\frac{4}{5}$   
its length; combined head and trunk  
 $1\frac{3}{5}$  to  $1\frac{3}{4}$  in tail to caudal base.

Snout  $3\frac{3}{4}$  to  $3\frac{4}{5}$  in head; eye  
 $4\frac{3}{8}$  to  $5\frac{1}{4}$ ,  $1\frac{2}{5}$  to  $1\frac{3}{5}$  in snout,  
greatly exceeds interorbital; mouth  
cleft reaches half way in eye, length  
 $2\frac{2}{5}$  to  $2\frac{1}{2}$  in head; teeth small,  
conic, in narrow bands in jaws  
becoming minute posteriorly and

some anterior, especially below,  
 noticeably largest; premaxillias with  
 broad band of exposed rather large  
 teeth before closed mandible tip,  
 formed as 3 or 4 irregular series  
 and followed by row of 4 or 5  
 moderately large simple teeth on  
 and first often largest  
 vomer, interorbital  $12\frac{4}{5}$  to  $14\frac{1}{2}$ ,  
 or quite  
 nearly level, ~~or depressed concavely~~.  
 Gill opening  $5\frac{4}{5}$  to  $6\frac{2}{5}$ , oblique,  
 mostly below and before pectoral base.  
 Lateral line axial, prominent.  
 Dorsal origin over middle of



depressed pectoral, fin height  $3\frac{2}{5}$  <sup>6</sup>  
<sup>to</sup> or 7 in head; anal fin height  $4\frac{1}{4}$   
 to  $8\frac{1}{2}$ ; caudal  $4\frac{1}{4}$   $7\frac{1}{3}$  to 8, pointed;  
 pectoral  $3\frac{7}{8}$  to 4.

<sup>to uniform dusky with age</sup>  
 Uniformly pale brown, scarcely  
 paler on belly and under surface  
 of head. Top and sides of head,  
 especially on opercle, dark brown.  
<sup>Triangle gill opening blackish.</sup>  
 Iris grayish. Fins all pale  
 brownish, vertical ones only dark or  
 dusky short extent posteriorly.

Diagnosis. Known by its slender  
 and somewhat compressed head and  
 body, the vertical fins only dark

1798

posteriorly and the eye moderately large.

Type no.

U. S. N. M.

10201. D. 5467. Atulayan Island (S.), S.  $79^{\circ}$  W., 2.5 miles (N.  $13^{\circ}35'27''$  E.  $123^{\circ}37'18''$ ), east coast Luzon. In 480 fathoms. June 18, 1909. Length 455 mm.

9185. D. 5492. Dinata Point (W.), S.  $45^{\circ}$  W., 15.2 miles (N.  $9^{\circ}12'45''$  E.  $125^{\circ}20'$ ), between Leyte and Mindanao. In 735 fathoms. August 1, 1909. Length 523 mm.

9191. D. 5494. Dinata Point (N.), N.  $74^{\circ}$  W., 4.2 miles (N.  $9^{\circ}6'30''$  E.  $125^{\circ}18'40''$ ), between Leyte and Mindanao. In 678 fathoms. August 2, 1909. Length 568 mm.

10144. D. 5511. Camp Overton Light, S.  $80^{\circ}$  E., 15.3 miles (N.  $8^{\circ}15'20''$  E.  $123^{\circ}57'$ ), northern Mindanao and vicinity. In 410 fathoms. August 7, 1909. Length 331 mm.



1797

5470. D. 5202. Linasawa Island  
(E.), S.  $2^{\circ}$  E., 16.70 miles (N.  $10^{\circ}12'E$ ,  $125^{\circ}4'10''$ ), Sogod Bay, southern Leyte.  
In 502 fathoms. April 10, 1908.  
Length 335 mm.

6212. D. 5266. Matocot Point, S.  $22^{\circ}$   
E., 7 miles (N.  $13^{\circ}44'36''E$ ,  $120^{\circ}59'15''$ ),  
Verde Island Passage and Batangas Bay.  
In 100 fathoms. June 8, 1908.  
Length 360 mm.

~~7646. D. 5348. Point Tabonan, S.  $89^{\circ}$   
E., 33.5 miles (N.  $10^{\circ}57'45''E$ ,  $118^{\circ}38'15''$ ),  
Palawan Passage. In 375 fathoms.  
December 27, 1908. Length 345 to 350  
mm. 3 examples.~~

2344. D. 5215. Palanog Light, S.  $5^{\circ}$   
 $30'E$ , 8.50 miles (N.  $12^{\circ}31'30''E$ ,  $123^{\circ}35'24''$ ), east of Masbate. In 604  
fathoms. April 21, 1908. Length 518  
mm.



Bathycongrus bleekeri new species

Depth  $13 \frac{1}{4}$  to caudal base,  
 $2 \frac{3}{4}$  in head; head  $5 \frac{1}{4}$  to caudal  
base,  $1 \frac{7}{8}$  to vent, head width  
 $3 \frac{1}{5}$  in its length; combined head  
and trunk 2 in tail. Snout  $4 \frac{1}{8}$   
in head; eye  $4 \frac{1}{8}$ , equals snout,  
over twice interorbital; mouth  
cleft reaches opposite middle of  
eye, length  $2 \frac{3}{5}$  in head; upper  
jaw protrudes nearly  $\frac{2}{5}$  snout  
length beyond front of lower  
jaw; lips with rather broad

lateral folds; teeth simple, conic, small, uniserial in jaws; small patch of similar teeth on head of vomer; 2 rows of exposed premaxillary teeth on under surface of snout; interorbital low, width 8 in head, level. Gill opening  $5\frac{2}{3}$  in head, vertical slit before and below pectoral.

Lateral line distinct, complete.

Dorsal origin slightly before gill opening, fin height 3 in head, caudal  $4\frac{1}{8}$ ; anal fin height 6;



pectoral length  $2 \frac{1}{2}$ .

Largely uniform pale brown. Muzzle pale or whitish. Iris gray. Gill opening pale. Along or close below some very inconspicuous scattered minute black spots or dots. Fins uniform pale brown.

Diagnosis. Related to Bathycorpus squaliceps and B. musteliceps but differing in its larger eye and coloration.

Type no.

U.S.N.M.



D. 5557. Cabalian Point, N.  $70^{\circ}$   
W., 5.2 miles (N.  $5^{\circ}51'30''$  E.  $121^{\circ}1'$ ),  
Jolo Island and vicinity. (labeled May 22, 1908).  
13 fathoms. September 18, 1909.  
Length 80 mm. Type.

(For Pieter Van Bleeker who  
studied Philippine fishes, if only  
incidental to his exhaustive  
work on those of the East Indies.)

Bathycongrus squaliceps (Alcock)  
Congromuraena squaliceps Alcock, Journ.  
Asiatic Soc. Bengal, vol. 62, pt. 2, 1893,  
p. 183. Bay of Bengal, 128 fathoms; vol.  
53, pt. 2, 1894, p. 134 ( );  
vol. 65, pt. 2, 1896, p. 337 (off Madras  
coast, 128 to 210 fathoms); Cat. Deep Sea  
Fishes Indian Mus., 1899, p. 197 (Bay  
of Bengal, 128 to 210 fathoms).

Bathycongrus squaliceps Gilby, Proc.  
Linn. Soc. New South Wales, vol. 28, pt. 3,  
Aug. 3, 1898, p. 93 (reference).

Bathycorpus musteliceps (Alcock)  
Congromuraena musteliceps Alcock,  
Journ. Asiatic Soc. Bengal, vol. 63, pt.  
2, 1894, p. 133, pl. 7, fig. 5. Bay of Bengal,  
65 to 250 fathoms; Illustrat. Zool.

Investigator, pt. 3, 1895, pl. 15, fig. 7;  
Journ. Asiatic Soc. Bengal, vol. 65, pt. 2,  
1896, p. 337 (reference); Cat. Deep Sea  
Fishes Indian Mus., 1899, p. 199 (type).

Bathycorpus musteliceps Ogilby, Proc.  
Linn. Soc. New South Wales, vol. 28, pt.  
3, Aug. 31, 1898, p. 292 (reference).



Bathycongrus nasicus (Alcock)

Congromuraena nasica Alcock, Journ.  
Asiatic Soc. Bengal, vol. 62, pt. 2, 1893,  
p. 183. Bay of Bengal, 128 to 210 fathoms;  
vol. 63, pt. 2, 1894, p. 134 (

Illustrat. Zool. Investigator, Fishes,  
pt. 2, 1894, pl. 9, fig. 2, Journ. Asiatic  
Soc. Bengal, vol. 65, pt. 2, 1896, p. 337 (off  
Madras coast, 128 to 210 fathoms); Cat.  
Deep Sea Fishes Indian Mus., 1899, p. 198  
(Bay of Bengal, 128 to 210 fathoms).

Bathycongrus nasicus Gilby, Proc. Linn.  
Soc. New South Wales, vol. 28, Aug. 31,  
1898, p. 292 (reference).

1807

Depth ~~2~~ to  $2\frac{4}{5}$  in head; ~~12~~  ~~$\frac{7}{8}$~~  to  $13\frac{3}{4}$  to caudal base, head  ~~$5\frac{1}{4}$~~  to  $5\frac{4}{5}$ ,  $1\frac{7}{8}$  to ~~2~~  $\frac{4}{5}$  to vent; width  ~~$3\frac{1}{3}$~~  to  $3\frac{4}{5}$  its length; combined head and trunk  $1\frac{1}{2}$  to  ~~$1\frac{3}{4}$~~  in tail to caudal base. Snout  ~~$3\frac{1}{4}$~~  to 4 in head; eye  $8\frac{1}{5}$ , 2 in snout, 1 in interorbital; mouth cleft reaches opposite hind eye edge, length  $2\frac{3}{4}$  in head; teeth conic, in rather narrow bands in jaws and outer row little enlarged; transverse patch of premaxillary teeth rather



1808

large, conic, exposed and followed  
by short row of 4 on front of vomer  
of which first 2 larger but not  
conspicuously prominent; tongue free;  
interorbital 7, nearly level. Gill  
opening  $5\frac{1}{3}$ , below pectoral base.

Lateral line axial, prominent.

Dorsal origin begins over upper  
hind end of gill opening, fin height  
 $5\frac{3}{4}$  in head; anal fin height  $8\frac{7}{8}$ ;  
caudal  $7\frac{1}{4}$ , pointed; pectoral  $3\frac{3}{4}$ .

Pale brown, lower surface of head  
and belly whitish. Lateral line



1809  
whitish. Iris grayish, investing  
membranes whitish. Large dark  
brown blotch on opercle. Dorsal and  
anal whitish, posterior margins  
blackish though this extended further  
forward on anal. Caudal pale  
basally, end whitish, medially  
dusky. Pectoral pale or whitish.

46753 U.S.N.M. Bay of Bengal.  
Investigator Collection.  
Length 255 mm.

1810

Congrhynchus new genus  
Type Congrhynchus talabonoides  
new species.

Body elongate, compressed, deepest medially in trunk. Tail moderately long, compressed and acuminate, less than twice rest of body. Head conic, with elongated muzzle. Snout long, pointed, protruded well beyond end of mandible above which its edge each side with slight notch. Eye large, advanced but little before middle in head length, covered with skin continuous with



1811

that of head. Teeth moderately small, simple, conic; upper with premaxillary patch separated from those of jaw in which each band anteriorly of 4 irregular series with outer row anteriorly flaring little outward and all rows converging posteriorly into single row; lower with 3 or 4 ~~anterior~~ rows with outer series flaring out and inner teeth much smaller, especially posteriorly; vomerine biserial, of short extent.

Hand nostril slit, long as pupil, before eye.  
Lips thin, little developed. ~~Tongue~~  
Front nostril in short tube near snout end.



free in front. Gill openings moderate, equal interspace.

Lateral line axial, nearly complete.

Dorsal fin inserted over gill opening.

Pectoral moderate, inserted in lower half of body depth.

One species, in deep water.

(Conger;  $\rho\acute{\epsilon}\gamma\chi\omicron\varsigma$ , snout, with reference to its long muzzle.)

Congrhynechus talabonoides

new species

1813

Depth  $2\frac{3}{4}$  to  $3\frac{2}{3}$  in head,  $16\frac{1}{5}$  to  $21\frac{1}{5}$  to caudal base; head  $5\frac{4}{5}$  to  $5\frac{7}{8}$ ,  $2\frac{1}{4}$  to  $2\frac{1}{2}$  in head, width  $4\frac{1}{8}$  to  $4\frac{1}{5}$ ; combined head and trunk  $1\frac{1}{2}$  to  $1\frac{3}{5}$  in tail. Snout 3 to  $3\frac{1}{5}$  in head; eye 8 to  $8\frac{1}{5}$ ,  $2\frac{1}{2}$  to  $2\frac{2}{3}$  in snout, greatly exceeds interorbital; mouth cleft reaches  $\frac{3}{4}$  in eye, length  $2\frac{1}{4}$  to  $2\frac{2}{5}$  in head; rather broad bands of small sharp conic teeth on premaxillaries and front of jaws, former exposed as mouth closes and posteriorly smaller

1814

and bands narrowing, outer row  
in each jaw also larger and laterally  
all flaring out; only several small  
teeth like others adjacent on head  
of vomer, none on shaft; interorbital  
 $12\frac{3}{4}$  to 16, nearly level. Gill  
opening  $5\frac{1}{2}$  to  $7\frac{1}{2}$ , low.

Lateral line axial, complete.

Dorsal origin over hind edge  
of gill opening, fin height  $4\frac{1}{4}$  to  
 $6\frac{1}{2}$  in head; anal fin height  $5\frac{1}{5}$   
to  $5\frac{1}{2}$ ; caudal  $4\frac{1}{5}$  to  $4\frac{1}{4}$ ; pectoral  
 $4\frac{1}{5}$  to  $4\frac{3}{5}$ .



Brown, but slightly paler on under surface of head and belly. Iris gray brown. Fins brownish, verticals dusky marginally and terminally. Pectorals uniformly light brown. Gill openings pale.

Diagnosis. Characters in those of the genus and especially evident in the uniform dentition, without canines, some of the outer teeth flaring outward and the short biserial vomerine series. The long jaws, suggestive of Chlopsis or even Microstomus, but the dentition entirely different.

Type no.

U. S. N. M.

1816

5597. D. 5216. Anima Sola Island,  
N.  $44^{\circ}$  W., 29.50 miles (N.  $12^{\circ} 52' E.$ ,  $123^{\circ} 23' 30''$ ), between Burias and Luzon.  
In 215 fathoms. April 22, 1908.  
Length 305 mm.

D. 5247. Dumalag Island (S.), S.  $78^{\circ}$   
W., 3.8 miles (N.  $7^{\circ} 12' E.$ ,  $125^{\circ} 38' 45''$ ),  
Gulf of Davao. In 135 fathoms. May  
18, 1908. Length 118 mm. Along side of  
body 2 irregular rows of small  
dusky spots, more uniform on trunk  
and more or less scattered on tail.

2634. D. 5502. Macabalan Point  
Light (Mindanao), S.  $35^{\circ} E.$ , 8.2 miles  
(N.  $8^{\circ} 37' 37'' E.$ ,  $124^{\circ} 35'$ ), northern  
Mindanao and vicinity. In 214 fathoms.  
August 4, 1909. Length 292 mm Type.



Genus Coloconger Alcock

Coloconger Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 4, 1889, p. 456. Type

Coloconger ramiceps Alcock, monotypic.

Tail less than combined head and trunk. Head rather short. Snout short.

Eye large, far advanced. Mouth cleft wide, extends little beyond middle of eye, jaws equal. Teeth uniserial.

Tongue free.

in jaws, none on vomer. Nostrils large, front one sub-tubular, hind one

superior or above front angle of orbit.

Gill openings into pharynx wide slits.

Gill openings separate. No scales.

Lateral line axial. Vertical fins well developed, dorsal origin over pectoral base. Pectoral rather large, inserted within lower half of body depth.



Coloconger raniceps Alcock

Coloconger raniceps Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 4, 1889, p. 456.

Andaman Sea off Ross Island, 265 to 271 fathoms; ser. 6, vol. 10, 1892, p. 364 (Bay of Bengal, 200 to 400 fathoms); Illustrat. Zool. Investigator, Fishes, pt. 1, 1892, pl. 7, fig. 4. — Goode and Bean, Oceanic Ichth., 1895, p. 139 (reference). — Alcock, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, 1896, p. 337 (Andaman Sea, 265 to 271 fathoms; Bay of Bengal, 200 to 400 fathoms); Cat. Deep Sea Fishes Indian Mus., 1899, p. 196 (Andaman Sea, 265 to 405 fathoms; Bay of Bengal, 200 to 400 fathoms; Arabian Sea off Malabar coast, 224 to 287 fathoms).

Genus Uroconger Kaup

Uroconger Kaup, Cat. Apodal Fish  
Brit. Mus., 1854, p. 110. Type

Congrus lepturus Richardson, monotypic.

Congerodon Kaup, Archiv Naturg., 1856,  
p. 73. Type Congerodon indicus Kaup,  
monotypic.

Body elongate, anteriorly partly  
cylindrical, posterior compressed  
with long tapering tail. Head conic,  
depressed. Snout long. Eye rather  
large, covered with skin without  
free orbital edge. Mouth cleft  
moderate, reaches eye center or  
beyond. Lower jaw shorter. Lips  
moderate, membranous, upper with  
row of short slit like pores. Teeth



1820

acicular, unequal, 2 distant rows  
in maxillary, biserial anteriorly  
in mandible where short third  
inner row. Vomer with some large  
teeth in front which may be followed  
by series of smaller ones. Premaxillary  
with unequal teeth in 2 irregular  
series, an outer tooth may be enlarged.  
Tongue free. Gill openings large,  
vertically before and below pectoral  
bases. Lateral line distinct.

Vertical fins confluent, dorsal  
begins over pectoral base. Pectoral  
well developed.



Analysis of species

1921

- a.<sup>1</sup> Eyes lateral, directed laterally or from sides of head.
- b.<sup>1</sup> Uroconger. Depth 20 to 23; head and trunk more than  $\frac{1}{2}$  of tail; pectoral 9 to 11.
- c.<sup>1</sup> Pectoral  $3\frac{1}{2}$  to 4 in head; dorsal begins above pectoral base. lepturus.
- c.<sup>2</sup> Pectoral  $2\frac{2}{5}$  in head; dorsal origin at last fifth of pectoral. vicinus.  
new subgenus.
- b.<sup>2</sup> Bathyroconger, depth 12 or 13; head and trunk less than  $\frac{1}{2}$  of tail; pectoral 17. braueri.
- a.<sup>2</sup> Uranconger new subgenus. Eyes superior and directed upward on head; depth  $16\frac{1}{4}$ . dentatus.

Subgenus Eurocenger Kaup 1822

Greatly elongate, depth 20 to 23  
in length. Combined head and trunk  
more than  $\frac{1}{2}$  of tail. Head conic,  
compressed. Dentition little conspicuous.  
Interspace between gill openings  
equals their length. Pectoral rays  
9 to 11.

Uroconger lepturus (Richardson)

Congrus lepturus Richardson, Voy.  
Sulphur, Fish., 1844, p. 106, pl. 56, figs.  
1 to 6. Canton, China; Ichth. Voy.

Erebus and Terror, 1844-48, p. 109  
(China Seas); Ichth. China Japan,  
1846, p. 312 (Canton).

Conger lepturus Bleeker, Act. Soc. Sci.  
Ind. Néerl., no. 9, vol. 3, 1857-58, p.  
(6) 49 (Siboga, Sumatra). — Boulenger,  
Ann. Mag. Nat. Hist., ser. 7, vol. 7, 1901,

— Fowler, Hong Kong Naturalist, vol. 3, no. 1,  
March 1932, p. 53 (India).

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Uroconger lepturus (Richardson)

Congrus lepturus Richardson, Voy.

Sulphur, Fish., 1844, p. 106, pl. 56, figs.  
1 to 6. Canton, China; Ichth. Voy.

Erebus and Terror, 1844-48, p. 109

(China Seas); Ichth. China Japan,  
1846, p. 312 (Canton).

Conger lepturus Bleeker, Act. Soc. Sci.

Ind. Néerl., no. 9, vol. 3, 1857-58, p.

(6) 49 (Siboga, Sumatra). — Boulenger,

Ann. Mag. Nat. Hist., ser. 7, vol. 7, 1901,

p. 261 (N.  $23^{\circ}$  to  $24^{\circ}$  E.  $57^{\circ}$  to  $58^{\circ}$ , 143 to

205 fathoms). — Weber and Beaufort,

Fishes Indo Austral. Archipelago, vol.  
3, 1916, p. 265, figs. 113 and 114 (Celebes).

Uroconger lepturus Kaup, Archiv Naturg., <sup>1874</sup>  
1856, pt. 1, p. 71 (reference); Cat. Apodal  
Fish Brit. Mus., 1856, p. 110 (compiled).  
— Bleeker, Atlas. Ichth. Ind. Néerl.,  
vol. 4, 1864, p. 29, pl. (5) 149, fig. 1  
(Java, Sumatra, Celebes); Nederland  
Tijdschr. Dierk., vol. 2, 1865, p. 57  
(Amoy). — Kner, Reise Novara, Fische,  
1865, p. 372 (Java). — Günther, Cat.  
Fishes Brit. Mus., vol. 8, 1870, p. 44  
(China; East Indies). — Schmeltz, Cat.  
Mus. Godeffroy, no. 5, 1874, p. 37  
(Formosa). — Day, Fishes of India,  
pt. 4, 1878, p. 661, pl. 170, fig. 1. — Károli,  
Termesz. Füzetek, Budapest, vol. 5, 1881,



p. 185 (Nagasaki). — Day, Fauna  
British India, vol. 1, 1889, p. 89, fig. 37.  
— Goode and Bean, Oceanic Ichth.,  
1895, p. 138 (reference). — Elera, Cat.  
Fauna Filipinas, vol. 1, 1895, p. 587  
(Luzon; Manila Bay). — Rutter, Proc.  
Acad. Nat. Sci. Philadelphia, 1897, p.  
61 (Swatow). — Jordan and Seale, Bull.  
Burr. Fisher., vol. 26, 1906 (1907), p. 6  
(Manila). — Herre, Philippine Journ.  
Sci., vol. 23, no. 2, August 1923, p. 146,  
pl. 1, fig. 3 (Manila, Mindoro, Iloilo).  
— Barnard, Ann. South African Mus.,  
vol. 21, pt. 1, June 1925, p. 191 (Zululand  
coast, 26 fathoms). — Jordan and Hubbs,

1826

Mem. Carnegie Mus., vol. 10, no. 2,  
June 27, 1925, p. 196 (Snyder's  
material). — Fowler, Journ. Bombay  
Nat. Hist. Soc., vol. 32, no. 2, 1928,  
p. 255 (off Bombay). — Chen, Bull.  
Biol. dep. Sun Yat Sen Univ.,  
vol. 1, no. 1, 1929, p. 13, fig. 6 (dentition).  
(Ying khon).

Congerodon indicus Kaup, Archiv naturg.,  
1856, pt. 1, p. 74. Indian Ocean (Paris  
Museum).

Conger oxyrinus (Kuhl and Van Hasselt)  
Bleeker, Atlas Ichth. Ind. Néerl.,  
vol. 4, 1864, p. 29 (Museum Lugd. Batav.;  
name in synonymy).



1827

Leptocephalus retotinctus (not  
Jordan and Snyder) Snyder, Proc.  
U. S. Nat. Mus., vol. 42, 1912, p. 405  
(Kagoshima).

Depth  $18\frac{2}{5}$  to  $28$ , to caudal base,  
 $2\frac{1}{2}$  to  $3$  in head; head  $8\frac{1}{5}$  to  $9\frac{1}{5}$   
to caudal base,  $2\frac{1}{4}$  to  $2\frac{2}{3}$  to vent,  
width  $3$  to  $3\frac{1}{4}$  its length;  
combined head and trunk  $2\frac{1}{8}$  to  $2\frac{2}{5}$   
in tail to caudal base. Snout  $3\frac{3}{4}$   
to  $4$  in head; eye  $6\frac{1}{5}$  to  $8$ ,  $2$  in  
snout, subequal with interorbital;  
mouth gape reaches opposite hind  
pupil edge, or hind eye edge,  
length  $2\frac{1}{5}$  to  $2\frac{4}{5}$  in head; teeth

biserial, inner longer, depressible,  
also single row down vomer;  
interbital  $7\frac{2}{5}$  to  $7\frac{7}{8}$  in head.

Gill opening 6 to  $6\frac{2}{3}$  in head,

Lateral line distinct.

Dorsal origin over pectoral to  
first fifth in length of depressed  
pectoral, fin height  $3\frac{1}{2}$  in head;  
anal fin height 5; caudal  $3\frac{1}{3}$  to  
 $6\frac{1}{2}$ ; pectoral  $3\frac{2}{3}$  to  $3\frac{3}{4}$ .

Brown, whitish on under  
surface of head and belly. Iris  
whitish. Vertical fins dark brown



to dusky. Caudal dusky. Pectoral  
pale. Inside gill opening pale  
to whitish.

Zululand, India, East Indies,  
Philippines, China, Formosa, Japan.

1830  
21751. Cebu market. March 28,  
1909. Length 208 mm.

22986. Cebu market. March 22,  
1909. Length 220 mm.

12149. Manila market. March 12,  
1908. Length 352 mm. Head and trunk  
 $2\frac{1}{10}$  in tail.

3802. D. 5517. Point Tagolo Light,  
S.  $83^{\circ}$  W., 10.5 miles (N.  $8^{\circ}45'30''$  E.  $123^{\circ}$   
 $33'45''$ ), northern Mindanao and vicinity.  
In 169 fathoms. August 9, 1909. Length  
270 mm. Head and trunk  $2\frac{1}{5}$  in tail.



Uroconger vicinus Vaillant

Uroconger vicinus Vaillant, Exped.  
Sci. Travailleur et Talisman, Poiss.,  
1888, p. 86, pl. 6, fig. 1. Banc d'Arguin,  
off Loudan, off Cape Verde Islands.  
— Alcock, Ann. Mag. Nat. Hist., ser. ,  
vol. 10, 1892, p. 363 (off Madras, 475  
fathoms). — Goode and Bean, Oceanic  
Ichth., 1895, p. 138, pl. 42, fig. 160  
(immature) (N.  $23^{\circ}10'36''$  W.  $82^{\circ}20'28''$ ,  
146 fathoms). — Jordan and Evermann,  
Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896,  
p. 358 (compiled). — Alcock, Journ.  
Asiatic Soc. Bengal, vol. 65, pt. 2,  
1896, p. 338 (reference); Cat. Deep

1832  
Sea Fishes Indian Mus., 1899, p. 200  
(Bay of Bengal, 475 fathoms; Arabian  
Sea off Malabar; 430 to 636 fathoms).

— Barnard, Ann. South African Mus.,  
vol. 21, pt. 1, June 1925, p. 192 (off  
Cape Point, 345 fathoms).



Bathyroconger new subgenus

Type Uroconger braueri Weber and Beaufort.

depth 12 to 13 in length,  
Elongate, trunk and tail compressed.  
Combined head and trunk less than  $\frac{1}{2}$  of tail.  
Head conic, robust. Dentition

conspicuous. Interspace between  
gill openings greater than their length.

Pectoral ray 17.

Diagnosis. Distinguished from  
the littoral shore genus Uroconger  
by its slightly deeper body,  
broader interbranchial space  
and more numerous pectoral rays.

~~Uroconger braueri (Weber & Beaufort)~~

Uroconger braueri Weber and Beaufort

Uroconger braueri Weber and Beaufort,  
Fishes Indo Austral. Archipelago,  
vol. 3, 1916, p. 266 (on Brauer).

Uroconger lepturus (not Richardson)

Brauer, Deutsch. Tiefsee Exped. Valdivia,  
vol. 15, Tiefsee Fische, 1906, p. 124 (S.  $3^{\circ}$   
 $22'1''$  E.  $101^{\circ}11'5''$ , 903 meters; S.  $0^{\circ}39'2''$   
E.  $98^{\circ}3''$ , 750 meters; N.  $1^{\circ}47'1''$  E.  $96^{\circ}58'7''$ ,  
660 meters; off western Sumatra; S.  $0^{\circ}$   
 $25'5''$  E.  $42^{\circ}49'4''$ , 1019 meters; S.  $0^{\circ}29'3''$ .  
E.  $42^{\circ}47'6''$ , 977 meters, off East Africa).



Depth <sup>to 2 4/5</sup> 2<sub>1</sub> in head, <sup>to 2 1/4</sup> 14 1/8 to caudal  
base; head <sup>to 7 3/5</sup> 7 1/10, <sup>to 2 7/5</sup> 2 3/5 to vent;  
width <sup>to 3 in</sup> 2 2/5 its length; combined  
head and trunk 1 2/3 in tail to  
caudal base. Snout <sup>3 1/3 to</sup> 3 2/5 in head;  
<sup>6 4/5 to 1 3/4 to</sup> eye <sub>1</sub> 7, <sub>1</sub> 2 in snout, 1 in interorbital;  
mouth cleft reaches opposite eye  
center, length <sup>to 2 4/5</sup> 2 3/5 in head; teeth  
large, prominent, conic, 2 irregular  
rows on <sup>pre</sup>maxillary exposed before  
tip of closed mandible; in jaws  
teeth anterior biserial but become  
smaller and  
uniserial posteriorly; row of 3 or 4



teeth on vomer, <sup>on first and second</sup> first, largest and  
 strongest; interorbital <sup>5 1/2 to</sup> 7, depressed.  
 Gill opening <sup>6 1/2 to</sup> 7, little oblique, before  
 and below pectoral.

Lateral line axial, distinct,  
 complete.

Dorsal origin opposite first  
<sup>fifth or</sup> fourth of depressed pectoral, fin  
 height <sup>3 3/4 to</sup> 4 1/5 in head; anal fin  
 height <sup>to 6</sup> 5 2/5; caudal <sup>to 5 4/5</sup> 5 2/5, pointed;  
 pectoral <sup>3 1/2 to</sup> 3 4/5.

Pale brown, nearly uniform.  
 Iris pale. Lips, under surface of  
 head, opercular region and space

about pectoral base dark neutral  
drab. Inside gill opening and  
vent neutral black. Vertical fins  
grayish, darker or nearly neutral  
black posteriorly inclusive of caudal.  
Pectoral dark basally, pale terminally.

*Elmantis* an *Indian* *Elmantis*

*Very* *specimens*

and 17800.

10254, D. 5585. Sipadan Island (M.),  
S. 89° W., 12 miles (N. 4° 7' E. 118° 49' 54"), Sibuko Bay, <sup>Philippines</sup>  
September 28, 1909. Length 480 mm.  
In 476 fathoms. <sup>453 to</sup>

~~17800. D. 5585.~~

~~September 28, 1909. Length 453 mm.~~



Uranoconger new genus

Type Uranoconger dentatus new species.

Body long, tail greatly longer than rest of body and tapering ~~in~~ long and slender. Head conic. Snout long and conic, protrudes well beyond mandible. Eyes large, directed or facing upward. Mouth cleft moderately large. Dentition ~~not~~ <sup>broad fleshy</sup> covered by lips, ~~not~~ only large patch of conspicuous curved teeth, <sup>in 2 to 4 series exposed</sup> before mandible; teeth slender, numerous, rather large, forming bands in jaws with anterior, including



those on premaxillaries and vomer,  
largest. Tongue free. Interorbital  
narrow. Gill opening about large  
as eye. No scales. Dorsal begins  
over pectorals, continuous with  
rather long caudal and anal.  
Pectoral well developed.

Diagnosis. Easily known by the  
large eyes, directed upward,  
~~exposed dentition~~ and rather long  
caudal.

1940

odontotomus

Uranoconger dentatus new species

Depth  $2 \frac{2}{3}$  in head,  $16 \frac{1}{4}$  to  ~~$18 \frac{1}{4}$~~   
caudal base; head  ~~$6 \frac{1}{4}$~~   $2 \frac{2}{5}$  to  ~~$2 \frac{3}{4}$~~   
vent; width  ~~$3 \frac{1}{4}$~~   $3 \frac{1}{4}$  in its length;  
combined head and trunk  ~~$2 \frac{3}{5}$~~   $2 \frac{3}{5}$  in  
tail to caudal base. Snout  ~~$3 \frac{2}{5}$~~   $3 \frac{2}{5}$   
in head; eye  ~~$6 \frac{1}{8}$~~   $1 \frac{4}{5}$  in snout,  
 ~~$1 \frac{1}{2}$~~  2 times interorbital; mouth  
cleft reaches eye center, from snout  
tip  ~~$2 \frac{2}{3}$~~   $2 \frac{2}{3}$  in head; front nostril in  
short tube near snout tip, hind  
one slit  ~~$2 \frac{1}{4}$~~   $2 \frac{1}{4}$  eye diameter is long  
close before middle of front eye



~~1 1/4 to~~

1841

edge; interorbital  $2 \frac{1}{6}$  in eye,  
~~8 1/5 to~~  $14 \frac{1}{2}$  in head. Gill opening ~~3 1/5 to~~  $6 \frac{1}{5}$ ,  
~~A~~ oblique.

Lateral line distinct, axial  
along side.

~~fifth to~~

Dorsal origin opposite first ~~A~~  
third of depressed pectoral, fin  
~~3 2/5 to~~ height  $4$  in head; anal fin height  
~~to 4 1/5~~  $4 \frac{1}{2}$ ; caudal ~~2 1/5 to~~  $2 \frac{3}{4}$ , pointed;  
~~3 to~~ pectoral  $3 \frac{1}{5}$ .

Pale brown. Iris gray, with  
pale brown to whitish investment,  
especially posteriorly. Inside gill



1942

openings blackish, branchiostegal  
 (Young with sides of head and belly anteriorly speckled with brown.  
 region grayish in <sup>day later</sup> Belly dark as  
 sides. Vertical fins pale brown

basally, dusky or dark brown  
<sup>Caudal tip pale to whitish.</sup>  
 marginally in Pectoral whitish

basally, greater terminal portion  
 brownish.

Diagnosis: Characters contained  
 in the genus.

4097. D. 56 56. Olang Point, N.  $67^{\circ}$   
 W., 14.5 miles (N.  $3^{\circ}17'40''$  E.  $120^{\circ}36'45''$ ),  
 Gulf of Boni, Celebes. In 484 fathoms.  
 December 19, 1909. Length 377 mm.

1843

Genus Poeciloconger Günther  
Poeciloconger Günther, Proc. Zool. Soc.  
London, 1871, p. 673. Type Poeciloconger  
fasciatus Günther, monotypic.

Body compressed, less than tail.  
Head pointed, without muciferous  
cavities. Snout long. Eye moderate,  
well advanced. Mouth cleft moderate,  
reaches below eye. Teeth villiform,  
in narrow bands in jaws and on  
vomer. Nostrils small, anterior  
without tube. Gill openings rather  
wide, close together. Vertical fins  
confluent, dorsal begins well before  
pectoral. Pectoral moderate.



Pociloconger fasciatus Günther

Pociloconger fasciatus Günther, Proc.

Zool. Soc. London, 1871, p. 673, pl. 68.

Manado, Celebes; Journ. Mus. Godeffroy,  
vol. 9, pt. 17, 1910, p. 393 (Tahiti). —

Weber and Beaufort, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 267, fig. 115

(compiled). — Fowler, Mem. Bishop

Mus., vol. 10, 1928, p. 40 (compiled).



Genus Veternis Snyder

Veternis Snyder, Bull. U. S. Fish  
Comm., vol. 22, 1902 (1904), p. 516. Type  
Veternis versus Snyder, monotypic.

Body elongate, compressed, much  
less than tail. Head long. Snout  
long, pointed. Eye large, well advanced.  
Mouth cleft extends behind eye,  
lower jaw shorter. No teeth. Tongue  
free. Nostrils not tubular, anterior  
near snout tip, with narrow rims,  
posterior oblong and near eyes.  
Gill openings separate, with broad  
lunate slits. Vertical fin confluent,  
dorsal inserted over pectoral

base. Pectoral placed rather <sup>1846</sup>  
low, large.



Veternio verus Snyder

Veternio verus Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 516, pl. 2, fig. 3. Honolulu. — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 79, pl. 5, fig. 1 (type). — Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 40 (type; Hawaiian Islands); vol. 11, no. 5, 1931, p. 316 (Waikiki).

Silvesterina new genus

Type Silvesterina parvibranchialis  
new species.

Body elongate, well compressed,  
tapering to long slender tail. Head  
small, compressed. Snout conic.

Eye rather small, lateral. Mouth  
cleft moderate, <sup>jaws even.</sup> Teeth large, simple,  
curved, erect, rather wide set.

Tongue free. Row of large pores  
above upper jaw and another row  
in rather deep groove along lower  
side of mandible, with several  
posteriorly along lower sides of



Front nostril pair of pores in short tubes at side of snout tip; hind <sup>1649</sup>nostril rather large head. Gill opening not larger than pupil of eye, little before and close below level of pectoral fin base. Dorsal begins over pectoral base, continuous with small caudal and long anal. Pectoral rays very slender, about 18, fin moderate.

Diagnosis. Apparently unique in the family for its very small gill opening, with the appearance of a large pore with a slightly elevated cutaneous rim. Combined head and body slightly over half length of tail.

For the late Capt. Charles F. Silvester, who studied the eels of Porto Rico.

Silvesterina parvibranchialis new

species.

Depth <sup>2 to</sup>  $2\frac{1}{2}$  in head, <sup>13  $\frac{1}{4}$  to</sup>  $19\frac{2}{3}$  to  
caudal base; head <sup>6  $\frac{2}{3}$  to</sup>  $8\frac{1}{4}$ , <sup>2  $\frac{3}{5}$  to</sup>  $2\frac{4}{5}$  to  
vent, width <sup>2  $\frac{1}{5}$  to</sup>  $3\frac{1}{3}$  in length; combined  
head and trunk <sup>1  $\frac{4}{3}$  to</sup>  $1\frac{9}{10}$  in tail to  
caudal base. Snout <sup>3  $\frac{1}{3}$  to</sup>  $3\frac{2}{3}$  in head;  
eye <sup>to  $8\frac{1}{4}$</sup>   $6$ , <sup>to  $2\frac{1}{8}$</sup>   $1\frac{3}{5}$  in snout, <sup>once to</sup> twice interorbital;  
mouth cleft reaches <sup>2  $\frac{2}{5}$  in eye to</sup> opposite hind  
pupil edge, length <sup>to  $2\frac{2}{3}$</sup>   $2\frac{1}{10}$  in head;  
teeth in jaws in narrow bands, <sup>moderately broad</sup>  
<sup>narrowing posteriorly,</sup> outer row little longer and <sup>teeth often</sup> more  
wide spaced well as fewer; 2  
rather large teeth at front of vomer,



1851

depressible, <sup>first or second variably</sup> anterior larger, conspicuous;  
interorbital <sup>5  $\frac{2}{5}$  to</sup> 10, slightly convex.

Lateral line conspicuous, axial.

Dorsal origin over pectoral  
<sup>or  $\frac{2}{5}$  of depressed pectoral</sup> origin, fin height <sup>to  $3\frac{3}{4}$</sup>   $2\frac{2}{3}$  in head;  
anal fin height  <sup>$3\frac{3}{4}$  to  $4\frac{1}{4}$</sup>   $3\frac{7}{8}$ ; caudal  <sup>$2\frac{2}{3}$  to</sup>  $3\frac{1}{2}$ ,  
pointed; pectoral <sup>to  $2\frac{1}{2}$</sup>   $2\frac{1}{3}$ , pointed.

Uniform drab. Iris grayish.

Inside mouth, pharynx and gill  
<sup>or dusky</sup> opening pale. Lips and under  
surface of head little paler than  
upper. Fins all pale, vertical  
fins posteriorly all darker or

deeper drab basally. Pectoral uniformly pale.

Diagnosis. Contained in the genus, with especial reference to the very small infero-lateral pore like gill openings.

Type. no.

U.S.N.M.

4702. D. 5111. Sombrero Island, S.  $41^{\circ}$  E.,  
4.50 miles (N.  $13^{\circ}45'15''$  E.  $120^{\circ}46'30''$ ), China Sea.

January 16, 1908. (In 236 fathoms.)

Length 290 mm. Type.



10143. D. 5527. Balicasag Island (C.), N.  $14^{\circ}$  W., 8.2 miles (N.  $19^{\circ}22'30''$  E.  $123^{\circ}42'40''$ ), between Siquijor and Bohol. In 392 fathoms. August 11, 1909. Length 605 mm.

D. 5511.

~~4702 mm~~ 10160. Camp Overton Light, S.  $80^{\circ}$  E., 15.3 miles (N.  $8^{\circ}16'$  E.  $124^{\circ}31'50''$ ), northern Mindanao. In 423 fathoms. August 7, 1909. Length ~~290 to~~ 510 mm.

10171. D. 5513. Camp Overton Light, S.  $67^{\circ}$  E., 10.3 miles (N.  $8^{\circ}16'45''$  E.  $124^{\circ}2'48''$ ), northern Mindanao and vicinity. In 505 fathoms. August 7, 1909. Length 590 mm.

2185. D. 5329. Font Island (W.), N.  $28^{\circ}$  E., 24.25 miles (N.  $18^{\circ}33'$  E.  $121^{\circ}37'30''$ ), off northern Luzon. In 212 fathoms. November 19, 1908. Length 280 mm., tail atrophied.

D. 5325. 1904

10548 to 10550. Hermanor Island  
(N.), N.  $86^{\circ}$  E., 16.75 miles (N.  $18^{\circ}34'15''$   
E.  $121^{\circ}51'15''$ ), off northern Luzon.  
In 224 fathoms. November 12, 1908.  
Length 136 to 190 mm.

1491, 17821, 17822. D. 5326. Hermanor  
Island (N.), N.  $69^{\circ}$  E., 8 miles (N.  $18^{\circ}32'30''$   
E.  $122^{\circ}1'$ ), off northern Luzon. In 230  
fathoms. November 12, 1908. Length 147 to  
302 mm.

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5469. D. 5202. Limasawa Island (E.),  
S.  $2^{\circ}$  E., 16.70 miles (N.  $10^{\circ}12'$  E.  $125^{\circ}4'10''$ ),  
Sogod Bay, southern Leyte. In 502 fathoms.  
April 10, 1908. Length 583 mm.

10296. D. 5624. Makyan Island (S.),  
N.  $67^{\circ}$  W., 8.9 miles (N.  $0^{\circ}12'15''$  E.  $127^{\circ}29'$   
 $30''$ ), between Gilolo and Makyan Islands.  
In 288 fathoms. November 20, 1909.  
Length 500 mm.



10242. D. 5648. North Island (S.),  
N.  $87^{\circ}$  E., 10.2 miles (N.  $5^{\circ}35'$  E.  $122^{\circ}20'$ ),  
Buntan Strait. In 559 fathoms.  
December 16, 1909. Length 635 mm. Type.

10218. D. 5657. Olang Point, N.  $61^{\circ}$   
W., 15.5 miles (S.  $3^{\circ}19'40''$  E.  $120^{\circ}36'30''$ ),  
Gulf of Boni, Celebes. In 492 fathoms.  
December 19, 1909. Length 527 mm.